COMPUTERWORLD

Unix developers

Mainframe costs remain a barrier

IBM is sending an SOS to Unix software vendors as it struggles to turn the mainframe into a client/server platform. But so far, the retorn answer has been a blunt one: Give us a

break As in price break

Joining users in the chorus calling for lower mainframe pense of developing MVS applications must be sharply re-

deced to make the Third class System/390 environment more appealing A special few in an attempt to respond, IBM will start

(Base: 1 215 courses) giving or loaning ocw boardJevel System/ 390 processors hundied with PC servers to "a limited number of very critical yeadors" during the first half of 1995, accord-

ing to industry scorees. Not-so-lucky developers will he offered leases on the board, which can be

used to write mainframe applications at a PC or workstation, the sources added. Uoix system vendors such as Hewlett-Packard Co. routinely give away development machines. But free mainframes are a rare breed, and buying or leasing time on a System/300 remains a luxury for many software companies,

IBM romances NetWare 4.1 ships

By Laura DiDio

The formal launch of NetWare 4.1 this week will leave Novell. Inc. and Microsoft Corp. poised for allout trench wartere as Novell tries to best back the challenge from

Windows NT Server 3.5. At stake are the hearts, minds and purchase orders of an installed base of 3 million NetWare 3 y users who now have two robust and technically elegant network operating systems to choose from as they plot their upgrade path.

For many users - even the most entisfied NetWare stabuarts choosing between NetWare 4.1 and



Ed Wilk, network manager at WHDH-TV, a longtime NetWare shop in Boston, summed up the di-

lemma confronting users in the network operating systems wars. Like many of his peers, he said he loves the new features and pricing eternature of NetWire 4 1 Still." "I'd be a fool to ignore NT

Server 3.5 because Microsoft is so pervasive in the industry." Wills said "We've tested NT Server and how found it to be technically very good. (But) because we run customized DOS-based applications and not Windows, we'll most likely stick with NetWare

Intel policy incites user threats

By Jaikumer Vijayan

User anger continued to mount last week as In-tel Corp. steadfastly stuck to its heavily criticized policy of replacing buggy Pentium chips on a case-by-case b

By inst week, the internet, which has become a de facto barometer on the issue, was abuzz with talk of users returning flawed systems. Al-so raised was the possibility that a few users would file class-action is woulds if intel does not redress the situation - and puickly

Meanwhile, Intel last week said if woold delay announcing its much-publicized P24T Pentium Overdrive processor due to a chip flaw In addition to the general outrage over Intel's

Compaq Computer Corp.

APPROACH

Mathworks' software looks for particular bit patterns that Indicate errors in the Pestium's division operation and recalculates if necessary. The patch is currently available only for Mathworks' Mattab users.

Users await Mail 3.2 server fix

By Suruchi Mohan

With ship dates for Microsoft Corp.'s Exchange server officially slipping to midsummer 1995, some users and analysts are growing impatient with the company's inshillty to deliver on its promises. Some analysts last week said they seriously doubt the messag-

ing server software will be ready by mid-1995, in fact, most said then don't think it will be ready for a late 1985 delivery date, either Users, meanwhile, are beginning to ques tion how much longer they will have to wait for Exchange as the solution to their woes with Microsoft Mail 3.2.

0010112001

0011 6 XC

IBM, page 121

Mall 3.2, page 121 0016

Data encruption Security upgrade rattles banking industry

By Gary H. Anthon

Pearing that time is run out on the security of a wi financial institutions are le ing for a replacement. But t face a bost of technical, po

Intel, page 121

ing in on the other side is the federal ment, which hopes to influence the f

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HT 48103-1553





What's Inside

WINDOWS 95



Pain brings gain
The transition to Windows 95 won't be easy,

the transition to mindows so ont to easy, but it promises to be worthwhile, particularly for IS shops. A review of a Windows 95 beta version shows that the banishment of DOS is only the first in a string of benefits that IS staffs will see in Microsoft's replacement for Windows 3.1. Successing the

NEWS

Sneak pecks at a beta version of Microsoft's SQL Server 95 database show that work remains to put the product on par with more mature Oracle and Sybase databases. Page 4

*Internet address translation products may well case the current shortage of addresses. Page 6

"Sun Microsystems is ready and able — but not willing — to ship Microsoft's Windows NT on its 64-bit Uttras PARC systems. Page 7 Sinsel's PS will not be russhed to market ahead of schedule despite the challenge of RISC server makers intent on dominating the server side of client/serversystems. Page 16

 D&B Software plans to adjust costs for elient/server/nigration services. Page 12
 Users of Novell's NetWare 4.1 say it does

what it's supposed to and without migration hassies. Page 14

Bly adding SNMP support to its CA-Unicenter systems management software. Computer Associates tightees integration with network

management products. Page 16 DESICTOP COMPLETING

With three months of experience, users give Apple's System 7.5 mixed reviews, applicating case-of-use advancements but knocking its graphics and communications features.

WORKGROUP COMPUTING

#Sun Microsystems' dominance of the SPARCcompatible marketplace may cost it the loyalty of some of its SPARC clone makers. Page 47

ENTERPRISE NETWORKING

Early users of Microsoft's Systems Management Server, formerly called Hermes, say they are impressed. Page 57

LARGE SYSTEMS

a Following the high-profile failures of two massively parallel processing rivals this year, the survivors are taking different paths into commercial markets. Page 69

APPLICATION DEVELOPMENT

#Symantec upgrades Enterprise Developer

with performance boosts and additional tools.

MANAGEMENT

Tech-ignorant real estate agents reasting on an open fire is one angry man's idea of holiday cheer. Page 91

IN DEPTH

mis the Macintosh dead for busimess? A Macintosh proponent says the PowerPC chip and multimedia features make the Macintosh a powerful corporate tool. Not so, says one PC backer, who claims it is expensive and lacks application. Fupe 99

CAREERS

#IS's role in managing electronic data interchange partnerships may be limited, but three positions offer opportunity to gain experience. Page 100

MARKETPLACE

*Monitoring users' personal information managers has never been a high priority, but standardization is becoming more widespread. Page 109

COMMENTARY

■Charles Babcock applauds Apple for finally deciding not to go it alone. Page 8

■ Bill Laboris forwards an IS wish list to the big guy from the North Pole. Page 36

Ted Lewis sees an i8 field of dreams in Rusnia. Page 37

Max Hopper says client/server technology should let you adapt the technology to the way

people work, not force people to adapt to the technology. Page 37

PRich Finkelstein says relational database management systems are the wrong road to on-

line analytical processing. Page 69

Executive Briefing

Novell's NetWare 4.1 is finally shipping - just in time to get into a full-blown marketing battle with Microsoft's NT Server. Both companies are taking the gloves off, and the fight promises to get ugly. Net-Ware 4.1 delivers seven network services - distributed directory services, messaging, routing, network management, file and print services and security - fully integrated into the core network operating system. And its price is lower than that of previous 4 x versions. But Microsoft counters that its solution is still cheaper and provides everything Novell's does in addition to a general-purpose server and applications. Page 1. Firing Line interviews reveal that early users are pleased with NetWare 4.1. Page 14 Analysts say the new NetWare release may be slow to take off in terms of sales. Page 57

The delivery date for Microsoft's Exchange server is slipping—it's now set for midsummer 1985—and some users and analysts are getting antsy, questioning the company's ability to deliver even on that goal. Some users say they may not wait for the mail system. Page 1

If you think 1994 was a disappointing year for wireless developments, you may really that 1985. The Collular Digital Packet Data (CDPD) network was not implemented during the past year because vendors stumbled over their inexperience and need to integrate services. Paying customers are limitly starting to show up for CDPD, but implementation will lake at least year. Page 4-

There is n't a whole lot of self-congratulation going on. While a small amount of application development projects succeed, most cither fall through, come in late or come in over beight, according to a study by the Standish Group, On the bright side. Its exceedings and the standard read of the bright side. Its exceedings any the fall alter or to is lower than if was five to if typera sign. Page 50 is must be low users imagine what's possible with mer to chool-oges. Notion-Bank, Douscee importers and BSI Corp, each void and way to bright or the communications going that ofter plaques to the other plants of the project of the communications got that ofter plaques the

On site this week: Some leading-edge users push the limits of Powersoft's PowerBuilder by using it with tools that create a middle tier to manage transactions. Page 77

users in a systems development project. Page 84

The 5th Wave by Rich Tennant





in A Common Offi Interface That Molec II Englary To Oce, Beduce Training Costs And Boost Productivity.





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Wireless falls short; future looks iffy

WASSISSTON

will get only road this Christman and yery possibly next Christmas as well. The anticipated Year of Wireless pover me to be partly because the expected Cellular Digital Packet Data (CDPD) net-

work was not implemented and vendors stumbled over their inexperience and need to integrate product services. Next year also looks bleak, accordi

to analysts, who said a nationwide CDPD network will not be up natil mid-year As a result, the market simply will not have enough time to run un the learning

User needs Users have indicated that they would very much like to have a low-cost, easyto-develop-for network available and have expressed frustration at the lack of good wireless services. This latest news

could slow some meen nigns. For instance, Visa International, Inc. in Redwood City Calif., said last week it will begin testing Bell Atlantic Mobile Systems' regional CDPD network in the

credit-card verification application. "We're excited about wireless and Users with wireless on their wish lists think it gives us the potential for opening up new markets" such as for taxi drivers or delivery vehicles and Dennis Moser. a seniorvice president at Vice But Moser

also said he would prefer to roll out his application across a nationwide network rather than region by region. Events at last week's topid Wireless

Datacomm show provided a suitable backdron for this meim formeast Porexample, Bell Atlantic Mobile amounced that the Groton Conn. police denartment had become its first paying customer for

CDPD and that Bell Atlantic had achieved interoperabil ity with Ameritech Corn's CDPD net more in Chicago, Bell Atlantic Mobile ol-The Yenkee Group in Boston She said so said it had created Greenhouse a this could much users to out for eirou

program to encourage the prowth of ireless data applications Still "I wouldn't say we'll be built out by the end of 1995," said Michael Frank-

lin, director of product management at **Boll Atlantic Mobile**

not intend to pursue a "build it and then will come" strategy for its CDPD net work instead it will not to let custon demand push its network goals, and it lems with its wireless network, Ricoc will reassess its investment at certain points But that strategy implemented by Metricom, Inc. to Los Gatos, Calif., for its nderless setupek Bissehot has not worked well

Other vendors contacted reaffirmed commitments to build out the CDPD network, but analysts said the customer issue could greatly slow CDPD deployment

"If customers don't como [vendors] won't deploy the network " which could load to a chicken-and-east scenario for the CDPD market said Roberta Warrins, an analyst at the

switched cellular technology rather than Most analysts agree that users should not expect to roll out broad horizonts. wireless data applications based on CDPD next year, although the technology

Other events at Wireless Datacomit · Motricom publicly discussed its prob

Newly named Executive Vice President Don Wood said the company has delayed coloring its network because of a move to 100-KHz performance. He also outlined a more aggressive rollout plan for 1998 rather than the build-to-outtomer mand strategy Metricon said It would follow earlier this year. That plan has essentially failed.

Wood said Metricom will finish denloy. ing in 1995 its petwork, now in beta testing in Silicon Valley, Calif., and Bellevue and Redmond, Wash, It will build out to as many as four other eities - Washington, Boston, Chicago and Houston - regardless of user interest, Wood said. Airopet Wireless Communications, Inc. in Needham, Mass., appounced its second-generation wireless access device said to advance wireless LANs. Aironet's Arl AN Models 630 and 640 use spread spectrum technology to achieve data reds of 2M bit/sec. Pricing starts at \$1,795 for a 900-MHz radio that can sup

SQL Server 95 gets mixed reviews Beta trails Unix databases technologically but competes in price

a "(Albieh and

and rostart.

integrity.

subscribe" replication.

Graphical monitoring utilities.

reak peeks at a beta version of Microsoft Corp.'s SQL Server 95 database at DR/Expo '94 here inst week revealed that it is not yet on par with more mature Oracle Corp. and Sybase, Inc. databases

Yet while Microsoft works to catch up technolog cally with its Univ rivals, the company will likely con tinge to best those competitors on price, according to

nsers and analysts "Quality doesn't always win which is not to say that Oracle or Sybase is the epitome of quality: But Microsoft will certainly push the pricing edge against them very hard," said Richard Finkelein, an analyst at Performance

Computing, Inc. in Chica The first release of SQL Server 95 has a few notable hoies. For example, while Sybase offers full replication to and from several reational and poprelational date bases, that capability will be missing in the initial release of SQL Server 95, confirmed Gary Voth, senior product manager for corporate and petwork systems

Right now, SQL Server 95 can ate data only to other Micro-

soft databases. Users who want to ring any other system into the picture must do so through gateway products supporting Open Data-base Connectivity interfaces, Voth said. He added that rect runlication to datab see is "something we are working on." He de-

In fact Voth and other Microsoft officials have steadinstly refused to say when users can expect general availability of SQL Server 95, other than to say it is due next year. It is in beta testing at 125 sites. Voth On the plus side, SOL Server will come with fapergraphical administration attitues designed to moni-

tor remote databases from one console. By comparison, Oracle 7 cannot do the same, although Oracle said it plans to offer such an option in the future

all and to notice to when the function might names

SQL Server 95 also contains a job scheduling feature that lets database administrators queue am assessed amolt tooks to be our ried out together at a specified

Keeping with Microsoft Some asers are convinced they cannot go wrong by using Micro soft applications on both the desktop and server levels. The

 Autometed backub New England, a Boston-based fi nance and insurance firm plans · Declarative referential to unstrude to SOI. Server 95 "as soon as it comes out " sold Homard Lipsky, assistant vice presi- Backward and forward scrotting current. dent of technological support and research. He also liked the tight integration of SQL Server with Microsoft's Windows NT.

The firm recently migrated from an OS/2- to Windows NP-based version of Microsoft SQL Server in its 82 offices nationwide. "We know what Microsoft says nes other than Microsoft's about NT being scalable, and we believe it," Lipsky

port up to 2.048 users. Powersoft users reassured about Watcom's life span

SwKlm S Nuch NEWYORK

Powersoft Corp. users can take comfort that their Watcom database will not fall by the wayside if Sybase. Inc.'s proposed \$900 million buyout of Powersoft is approved.

During a speech here at last week's DB/Expo '94 conference, Bob Epstein, executive vice president at Sybase, described a PC-to-enterprise database strategy that clearly ineludes Watcom

After the two companies announced merger plans last month users had worried that Powersoft's single-user Watcom detebase would be killed in favor of a low-end vertion of Sybase's SQL Server

Apparently not, because at the show, users also got a peck at a version of the Watcom database supporting Transact-SOL. Sybase's brand of structured query language. A production edition is due to ship next year, Watcom sonrees said. Support for Oracle Corp.'s PL/SQL "Is being examined," but Watcom bas no formal plans yet to support the

rival language, they said. Other announcements at DE/Expo include the following:

Object-relational database maker filustra information Technologies, Inc. announced a pact with Intel Corp. to jointly build a high-performance version of Illustra's prod net for Microsoft Corp.'s Windows NT on Pentium boxes Due to ship in August 1995, the database would target users erenting multimedia and on-line applications.

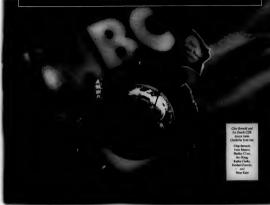
· For users struggling to move data boused in nonrelational mainframe databases, Micro Data Base Systems, Inc. in Chicago unveiled Titanium, a repository designed to store bier archical, relational, object and other types of data simulta

· iBM annonneed a bundle of its SP2 massively parallol processing (MPP) hardware with an MPP version of DB2 aimed

at data warehousing users. The so-called Powerquery package is slated to ship by mid-1995, after parallel DB2 finishes bets testing. Prices were not available, IBM said.

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ORACLE

Users seek mailboxes

Address translators offer solution for locked-out Internet surfers

Ry Steve Moore

Frustrated by a worsening shortnor of Internet addresses and sware that it will be several years before a next-generation version of the Internet Protocol begins to alleviate that shortage, network managers are hunting for interior

Unable to get large Class A or Class B addresses, some users have sought to aggregate smaller, Class C addresses Others been performed IP address translations through Unix-based proxy servers that require software on each client machine. But these solutions have proved complex, time-consoming and expensive to imple-

Now, however, some relief is in ight in the form of address translators that some analysts say could significantly delay the adoption of the next-generation IP even ough it will use 16-byte addresses rather than the 4-byte address es that limit the scope of the curAt least week's Full internet

World '94 conference in Washington Network Translation Inc. in. troduced the first commercial ad-Private Internet Exchange (PIX). The PIX device sits between a usor's private naturally and the internot, translating large numbers of purely internal addresses to

smaller numbers of shared, rootstered IP addresses PIX has arread us from convert. ing all our illegal, [unregistered] IP addressing to legal address-

ing," said Alan Helbush, staff systerms administrator at KLA Instru ents Corp. in San Jose, Calif. "A lot of addresses are hurned into ROM on it would take a burn time investment to change our address-

This type of product will definitely find a market," said Days samore, a principal consultant at Decisis, Inc. in Herndon, Va. "The atternative is to roll your own code on a Unix box or try to adapt

Security flaws exist in the following SCO products:

Unic System V/y86 Release 3.2 Version AA, A5 and A2

Com Design Delause to and 2.0

Open Server Network System Release and

Open Server Enterprise System Release 3.0

Open Desidon Lite Reteate v.o.

an Internet firewall product that was not really designed for ad-

Refere MI t Instruments by came a PIX beta site. Helbush said. "me had a procy server that was good for Unix users. But it left out our PC and Macintosh macrs so they couldn't share in the woulth

of the Interest

With PIX, "a PC or Mac can use Mosaic and be just as much a citizen of the Internet as finit more said Network Translation President John Mayes

Why bother upgrading?

The emergence of address trans lation products such as PIX may leave many users with little Incomtive to adopt the next-generation IP open it becomes available There is really no assurance that The pext-reperation (P) will ever he implemented broadly because it represents a major functional transition for TCP/IP software said Tom Nolle, president of CIMI Corp in Voorbees N.J.

In keeping with standard security policy, neith the CERT nor SCO would provide details about how the security vulnerabilities could be exploited Bob Kostosky, director of store technology at \$4 hillion Rite-Aid Corp., said be was unaware of any security problems. "I don't know anything about that al

all," said Kostoeky, who managed a national rollout of 2,700 SCO Unix store systems this year John Payne, director of point-of-sale technology at \$2 hillion Pizzu Hut, Inc. in Wichite Ken, was notified about a potential security problem by a SCO account

manager, But Payne said he was not commented Pizza Hut uses SCO Unix on PCs at more than 4,000 stores worldwide, but they

communicate through a private network via a dialun modem "We don't use the interpet at all for any kind of transmission like that or we'd be more con-

cerned," he explained. Recently, however, Pizza Hut began a test to see if customers could order nizzas via the Internet a project that will be expanded

next year. "We have some general concerns about the Internet because of security in general," Payne said. Because our systems sit off to the side and are not integrally tied into it, we've taken what we think are proper and prudent security precautions

The SCO software patches are available by the following means a Anonymous file transfer protocol (FTP) at its sec. com (login name: ftp; password: your electronic-mail

 PTP via the World-Wide Web at fin://www.see.com. . Interactive download from the SCO Online Support bulletin board.

Users can contact SCO via the internet at support@uco.com or by calling (800) 347-4381.

Security the star at Internet show

m What with the crowds, the lack of alsie markers and general disorganization, it was a challenge even finding the 115 exhibits at last week's internet World in Washington.

Then amin, it all seemed so familiar. A crowded, chaotic, exciting place - just like the Internet today. Attendance at the three-day Fall Internet World '94 evploded to 11,000, up from 4,000 attendees and 40 exhibitors last year according to show organizer Mccklermedia Curn

in Westport Coom "It's indicative of the broadening acceptance and use of the Internet," said Jori Maloff, an Internet consultant in Dexter, Mich. Majoff's revenue study of internet secess providers underscored this growth "Last March the annu

ized revenue total was just under \$50 million, and by March of this year it was \$120 million." he said. For Tom Smith, manager of data communications at Reynolds Metals Co. In Richmond, Vs., the Internet

is already a critical part of his company's research and engineering activities. "It's used by our researchers and engineers to access high-speed computing facilities. ... and we're evaluating using [the internet]

for electronic data interchange." he said But Smith repeated the oft-heard concern that with cure software, the internet's commercial vishility will con-

tinue to be questionable

Securing the hatches in an apparent answer, the major product news from internet World centered on a number of software vendors hawk ing browsers to implement the so-called Secure HyperText Transmission Protocol (HTTP) standard early next year.

For example, Terina Systems, Inc. in Menlo Park, Calif., announced several licensees for its Secure HTTP tool kits priced at \$3,000. Secure HTTP provides transaction securi ty over open networks through the public key cryptography technology developed by RSA Data Security, Inc. in Red

Michael Curry, vice president of new media at Book-of the-Month Cinb, inc., said be thinks internet client software capable of supporting secure credit-card transactions is still six months to a year away.

But he said the information systems group at parent com pany Time Warner, Inc. is already at work on husiness sys-tems for Book-of-the-Month Cluh's 10 cluhs and that the book club would have "a significant presence on the Web In '95." Time Warner's corporate World-Wide Web site, dubbed Pathfinder has been up for about a month

Other content providers further along than Book-of-the-Month Club are similarly preparing secure transaction software to enable the selling of services across the internet. Jeff Spirer, director of business development at the Internet Shopping Devision of Home Shopping Network in Menio

Park, Calif., said his company is working with browser vendor Netscape Communications Corp. to support credit-card payments over the internet. That feature, he mid, will be available within two to three me

Overall, the rapid growth and accelerating commercial ization of the Internet is pressuring a wider spectrum of companies. Businesses "have to develop a corporate Web presence and understand that the index-40 consumers will expect to find one," said Mark Helier, president of The Intermark Group Ltd. in Potomac, Md. He stressed that an IS organization unwilling to be a vanguard in this area is in danger of becoming "the tail wassed by the dor"

SCO patches five Unix security holes By Jean S. Bozman and Gary H. Anthes

The Santa Cruz Operation (SCO) last week alerted its

users about several security holes in the SCO Unix operating system and urged them to apply the fixes it is providing.

In an alert sent'over the internet, the Computer Emergency Response Team (CERT) at Carnegie Mellon University in Pittsburgh for wanted a notice from SCO The notice informed users about binary "natches" available to fix flaws in five Unix programs: at(C), prwiaru(C), sade(ADM) and pt_chmod.

Any uper with an account on the system could obtain thorized root seess to the system by exp any of the programs cited, the warning said. "SCO es you to act on this information as soon as possible," the CERT said.

Correction

Due to a printer error, a pie chart segment with the Page 1 story "Industry pressures PC lead-ers," was left blank last week. The segment should have read, "Not at all concerned - 15%."

Sun UltraSPARC chip can run NT — but won't

Sun Microsystems, Inc. is ready and able - but not quite willing - to ship Microsoft Corp.'s Windows NT on its 64-bit UltraSPARC systems next year. The UltraSPARC ehip, due to ship in the third quarter will support NT if Sun's chip cus-

tomers decide to use it. Son executions last week said soom are far more interested in getting perfor-

mance UltruSPARC a tron 64-bit ohin that is two to three factor than the current crop of

UltraSPARC chip will out the company back in a speed race with sald. The current SuperSDARC is recel as fast as intel Corp.'s Pentium chio.

32-bit Super-SPARC chins. "If it does what they say it's mine to do it would put them ahead of everybody excent Alpha." said Linley Gwennap, editor of "Microprocessor Report" in Sebastopol, Calif. With all that power, Sun is pushing its

fimee

high-end performance improvements : We've got the capability to kick-start the NT port," said Sun Chief Executive Officer Scott McNealy at an UltraSPARC briefing for analysts here last week. "Hit ever becomes a reasonable opportunity. we'd be happy to crank it up. But we cer-

tainly don't see that now Striking out on its own

By declining to market NT, Sun is refusing to deal with the coming convergence of PCs and workstations. Greenan said Today, they're doing well, but looking out into the future, they're not going where everybody else is going."

Hewlett-Packard Co. and IBM, for exumple have delivered Univ.hazed RISC PCs that could be made to rup other onerating systems

However, Sun's SPARC Technology Rusiness unit is doing something about NT The subsidiary recently hired more than 50 Intergraph Corp. engineers who had been working on an NT port earlier this year, Sun's RISC rivals, IBM and HP. have both done NT ports for their RISC chips even though they have not yet deeided to market them

Meanwhile, Digital Equipment Corp.'s Alpha, Silicon Graphics, inc.'s MIPS chips and Motorola, Inc.'s PowerPCchips all run NT on shipping systems.

Eric Schmidt, Sun's chief technology

officer, said the UltraSPARC chip will be able to run NT "extremely well." But he added that Sun does not plan to ship NTcompatible machines itself. Yet Sun could market an NT version "in a very short time" if it decided to produce one. be noted

NT is so important to some Sun clone makers that they are planning to move to PowerPC to get NT. "Sun's SPARC peoating systems," said David M. Smith, an analyst at International Data Corp. in Framingham, Mass, "Their goal in life in to sell SPARC But I think the only way Sun Microsystems would give in and run billiant would be as a last ditab offers

Getting UltraSPARC into systems -

s on SPARC chins. SuperSPARC's lagging performan caused many Sun sites to search for more nower from other RISC vendors or upgrade Sun servers with HyperSPARC chip sets from Ross Technologies, Inc.

with or without the NT port — is vitally important to vendors that base their avaabout four months ago, apgrading four aging Sun 670 servers with HyperSPARC chips, said Jerry McEachern, technology resources manager

Close makers are bailing out on SPARC - at least as their prime focus. See page 47.



FOR with FASTCPK, FORREORG, FOREPORT and ABR are the proven resources most MVS users rely on. From the fury of Hurricane Andrew, surging Mid-west floodwaters, World Trade Center bombing to the California carthquakes, innovation product users were able to attain "business as usual" conditions faster and more completely than those using other products.

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USER EXPERIENCES.

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"The anthinkable occurred one day before our full volume backups. Within hours we were able to recover hundreds of DASD volumes at our disast site from ABR incremental backups. ABR recovered the volumes as if we had done full backups the

Find out why 5,000+ users rely on Innovation's FDR products to provid the best and least costly solution for their storage managem

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Apple makeover: A new look

ple Computer is struggling to reconfigure itself. As we watch from the sidelines, it's tempting to both cheer the effort opposed and mush our tooth at the pace of

Nevertheless, it's clear Apple is trying to mend its ways. Instead of concentrating on high profit margins, it wants more market share. Instead of resting on its lacreis, it's trying to build advanced features into the next version of the Macintout operating system. Rost of all it belatedly understands the yelue of a more open platform, which could eventually lend to the

Portunately, that understanding is tied to agreements with IBM that will lead both companies toward producing PCs based on a common underlying PowerPC technology. Much remains to be done and the effort could still splinter apart, but Apple appears to have at least a dimmer of recognition that going it alone with 10% of the market will no longer cut it.

With the overwhelming dominance of Windows, any effort by Ap-ple at this point might appear to be too inte. Novertheless, even the

indifferent have reason to wish Apple success. As we watch intel reassure milns of customers that its Pentium mistakes don't ster, it reminds us of the risk inherent to being dendent on any single supdier or architecture. Best to en atternatives evallable if nothing else, let alternaive suppliers set a higher standard of behavior and technology for the domi



Charles Babcock

anniarturer to live up to Apple has learned the lessons of the PC marketplace the hard way. Now it remains to be seen whether there is enough time left for it to do something about them before Windows overtakes all the advantages of the Macintosh.

Apple's biggest challenge is decoupling the Macintosh operating system from its dependence on tho underlying hardware. The close interdependence of the hardware and software has given us many Macintosh advantages - ease of installation, network book up and plur-and-play accessories - but unraveling this tight totaration was beyond the loss of clone makers. Even if Apple licensed videm 7 as it is loday, clone makers would need the assistance of codified and standardized specifications for all the dependencies and would struggle to keep op

Once Macintoshes are built to the PowerPC Reference Platform new possibilities will open up. The Copland version of the Macintosh operating system will be microkernel-based and therefore ore portable. Apple has greater ambitions for Copland now than it did a short while ago. If pre-emptive muttitasking makes it toto the system, then Apple can layer the Taligent Common Point application development environment on top of it. Taligent's objectng capabilities could yield a long-term competitive advantage. With thousands of precoded object classes available. Common Point may prompt corporate software developers to take

a second look at the Macintosh Apple also wants to apgrade the networking support, making it ay to hook a Macintosh up to common oetwork protocols like TCP/IP and IPX as Apple/Talk. And the flashy new user interface would be scalable to the varied skill levels of several users on the same machine.

Likewise, the prospect of IBM and Apple producing PCs that can run more than one operating system may yield additional advanages. With backward compatibility with two (or more) application sets, hayers would have good reason to reconsider the Macintosh. fr's all an iffy scenario that hinges on the rapid upgrade of the PowerPC chip and agreements between its supporters to hring a common PowerPC platform into volume production. It's in our own

ock in Computerson Af's technical editor. His MCI Mail address is 575-2737

News Shorts GTE picks IntelliCorp to help design new development structure

The telephone operations division of GTE Corp. struck a deal potentially worth \$10 million last week with intellicorp, inc. to belp design its future software development platform. The partners will blend some of GTE's own object development tools, including methodologies, with IntelliCorp's Object Man-agement Workbench (OMW). The deal includes a \$5.8 million software license for OMW. The long-term goal is to build a development environment that will provide GTE with up to 80% software reusability and support as many as 2,500 programmers, said Blayne Mering, assistant vice president of technology specifications at the lrying. Texas, company.

IBM issues final layoffs of the year IBM wrapped up its soos lavelfs last week, issu-

Ing pink slips to 1.150 employees to five hustness units, including its mainframe and net-AYOFF working systems divisions and the marketine

and value ormai ration. As many as 12 000 jobs are being cut in the fourth own ter through a comb

tion of layoffs and attration, bringing IBM's workforce down to about 222 009 And more cuts are about While IRM would not disclose an overall workforce target for 1995, it announced that 850 jobs will be cut in the first half of the year at IBM U.S., its outsourcing operation and its interactive ser-

Bug will delay P24T chip

vices unit

Talk about tough times for Intel. Last week, the company announced it will not ship the highly publicized P24T Pentium Overdrive processor on schedule. According to Intel, one reason for the delay is an effort to fix a flaw in the processor that prevents boot-up in systems invoking the built-in selt-test function. Intel described the flaw as a "very minor hitch." The Overdrive processor is aimed at meru who want to upgrade from 14868X- and DXbased systems to Pentium-class performance

Xerox taps Sequent for consulting In a major endorsement of a hardware vend services provider. Xerox Corp. has bired Sequent Computer Systems, Inc. to help it map out an enterprise architecture plan. The six-month engagement is part of Xerox's loformation Management 2000 initiative, which is aimed at aliening information technology withhusiness goals.

Mtel buys out Destineer stock ommunication Technologies Corp

Office said it is buying out minority owners of its Destineer Corp. subsidiary, which is building a two-way paging network based on narrowband Personal Communications Services technology. The investors, among them Micro soft Chairman Bill Gates and Microsoft cofounder Paul Allen, will exchange their 20% stake to Destineer for 7.5% of Jackson, Miss.

Chevenne eves the enterprise

At a New York symposium last week, Cheyenne Software, Inc. divulated plans to add more enterprise-like features to its storage manage ment software. The technology, called Mercu-

ry, is stated to include heterogeneous clionts to manage beterogeneous servers, automatic recovery of failed jobs, unlimited concurrent backup, support for terabyto tape libraries and applications based on Simple Network

infrared standard picks up speed Microsoft is working with Hewlett-Packard Co. to build tofrared communications into Windows

95, its next version of Windows. Infrared can handle both serial and parallel functions, eliminating the need for two ports on portable devices. Hewlett-Packard will write code Lorest the Infrared Date Associa tion's standard into Windows 85. The drivers will be available from notebook and periphe al makers apon the release of Wiodows 95,

though Microsoft will not build it into the operating system until 60 to 90 days after it

CA to absorb Openingres fees Computer Associates International, Inc. will beging the CA-Open Road for Microsoft's Win-

dows 3.1 and Windows NT before the bolidays. while Univ versions of the fourth-encoration object-oriented development tool have inst entered beta testing and will ship by the end of March. CA also plans to absorb all porting and certification fees for CA-Openingres as the database is reconfigured for new bardware platforms and operattog systems. CA will also share license fees with its CA-Open-Ingres resellers

SHORT TAKES Lebman Brothers, Inc. has laid off 200 of its 2,300 trading systems and technology staffers in an effort to reduce costs. Armed guards now patrol Cyrix Corp.'s headquarters in Richardson, Texas, where some 2,800 486DX2 microprocessors worth an estimated \$359,000 were stolen Dec. 4.... X/Open Co. will merge with the SQL Access G which quietly became one of X/Open's worl ing groups this month. In the process, X/Open paid a token fee of t pound sterling for the right to use the SQL Access Group brand name... Next Computer, Inc. shipped Next-Step 3.3 for Intel Corp. and Motorola, Inc.

platforms and sent a software developer's kit version of the object-oriented operating system into beta testing for HP's PA-RISC sys-tems last week..... The ATM Forum last week passed a motion from the Desktop ATM25 Alliance to consider an additional midrange physical specification for Asynchronous Transfer Mode (ATM). The vote opens up the possibility once again for 25M hit/sec. ATM to ome a standard. In July 1993, the forum voted to consider only one low-speed ATM proposal - 51M hit/see

est to cheer such an effort onward

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Intel's P6 holds to fall 1995 delivery plans

Desnite reports to the contrary Intel

Corn is not accelerating the development process of the P6, its next-generation, high-availability processor, sources close to the company said.

calls for producing samples of the 133-MHz part in the first quarter followed by a midyear announcement and shioments to howfurne mekens in the fell Some OEMs said they expect to have P6 running in servers by Comdex/Fall '95. end version of the chip that will target massively parallel computer m such as ATAT Global Information Solutions, sources said. The high-end version, along with a 150-MHz chip expected next year, could help massively parallel

Intel declined to comment on unar Users said the chip, which includes built-in support for four-way multipro cessing, is key to Intel's ability to main tain a presence in

move from lares evaterne to eli ent/server imple

"Single-processor servers for large databases can't be managed effectively - von have to have multiple processors," said Abraham Chaif, a team lead at Pacific Gas & Electric Co. in San Fran-

He said Unix boxes dominate the server side of client/server applications because of their performance and suggested that Intel is in danger of losing the server market if it cannot match Unix server makers

High volume

According to sources, the P6 chip, which will begin at 250 MIPS and bump up to 300 MIPS will contain several other features: a High availability. This can be achieved through canabilities such as erroneorrecting code, which falls short of redunmey but brings PC servers to the level nd Tandem Computers, Inc.'s high-end

a Multiprocessing. This will give PC server makers a standard multiprocess. ing server architecture that could level the playing field in the server arena However, it may damage Compaq Com ster Corp., which touts its proprietary Tri-Flex architecture as a differentiator. a Unique packaging. Sources said the chip is 11/2 to 2 times as large as the current Pentium. It includes the processor and a 256K-byte Level Two cache in one package - a first for intel. The architecture should help boost performance.
Intel officials did discuss P6's Dynamic

Execution feature, which is the major performance differentiator between Pi and Pentium John Hyde, a technical marketing

manager at Intel, last week said the Dynamic Execution feature combines branch prediction, speculative execution and data-flow analysis to improve chip performance - three instructi per cycle, compared with Pentlum's two instructions per cycle. The chip does this by analyzing programs and predicting what instruction will be executed need. "It's the first time a processor has exc

cuted a program rather than instructions," Hyde said. This should let the first-generation P6 run programs twice as fast as today's 68/100-MHz Pentium.

Hyde also said the P6 will consist of multiple units. One unit will act as a fast front end, another as the speculative middle part and the last will be an in-order back end that maintains software compatibility with current applications.

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MICRO FOCIS

Legent rolls out client/server tool

Taking a cue from vendors that already offer iling and capacity planning tools for main mes and wide-area networks, Legent Corp. last week rolled out its own client/server ap cation modeling tool.



Legent's Paramount/XP-Capacity Applica-on Modeler for Distributed Systems allows users to construct "what if" scenarios to evaluate how proposed changes to hardware or soft ware would affect the performance of client/

"We're using it to evaluate applications before we buy," said Jim DeVries, a research plan ning analyst at Southern California Edison Co. semend, Calif. "We bring an application in for trial on a small test bed, and then we not the modeler to ramp it up to see what the ce pacity requirements and response times will be when the application is fully loaded." Southern California Edison is evaluating ap-

system and a coshiering system for collecting

payments from rate payers Logent's Capacity Application Modeler "is not just a mainframe tool or even a ported mainune tool, it's a tool to analyze the behavior of distributed systems "said Paul Mason an ana-

lyst at International Data Corp in Framingham, Mass. He noted that while Legent is strongly positioned in the distributed systems prepa today it must continue to sew its products into a seamless whole that encompasses clientserver and mainframe environ-

Worthwhile investment DeVries said he found the first version of Capacity Application Modeler to be "yeary valuable " although the initial investment was high. "But the future payoff is growing exponentially as we add

anageable except by a model," he added You can't uit and do it by intuition anymore Legent also announced delivery of its Paramount/XP Response Manager, which had been unced last June Response Manager is a Microsoft Corp. Windows NT-based product that allows users to proactively monitor elient/server application response time The agent component of Response Manager orks with another Legent product, LANSpy, to collect traffic statistics and monitor perfer-

nee relative to user-defined obsectives

Legent client/server link targets cests. See page 69

D&R Software reworks Smartpath, drops price

By Rosemary Cafasso

Hoping to answer user com about high costs. Dun & Bradstreet Software plans to soon release a revised and cheaper Smartneth set of client/server migration services and products

Cartier this year the com angered some of its mainframe customors when it previewed Smartpath with a befty fixed price of

\$25,000 per application. At the time, users said they expected that at least some migration assistance would be included for free

with their engoing maintenanfees when they opted to move to the company'u SmartStream client/server platform.

Free conversion Last week, company officia plied, saving they will now offer

asic data conversion acreiors for free as part of Smartpath, to add tion the yendor said it will offer packages with different price ranges — from \$20,000 to \$100 non that will include different levels of customization. These packages would replace the fixed per-application migration fees.

With the initially proposed Smartpath pricing, neers would have paid \$100,000 to migrate to four client/server applications.

able, general ledger and fixed assets. With the new pricing. sino one will provide conversion services for up to nine Smart Stream applications and a costom ed conversion project with three weeks of on-site services compa

ny officials said. Toeing the line "That is definitely a sten in the right direction." George Cacchiani a conjor analyzi

at Pepsico, inc. in Purchase, N.V. said of D&R Software's revised plans for Smartpath. "There's a baseline of supposed they should offer if they want people to move to client/serv

D&B Software had targeted an end-of-year shipment date for Smartpath hat that week said it will miss that dradline by a few weeks. Migration services pack-ages are now slated for early next

Smartpath includes a data extraction toot from Evolutionary Technologies, inc., enterprise models that can be used to impleent the elient/server software and an implementation method ogy that will be delivered on

Analysis said the new Smartath pricing abows that D&B Software is paying more attention to such as Pinancial Stream's ac-

HP price cuts leading way Oracle to clarify Rdb pricing and Jaikumar Vijayan

Less than a week after Hewlett-Packard Co. bid for higher ground in the PC market by ubarply cutting prices for the second e in three months, IBM has followed suit. IBM last week an-

nounced it will reduce prices by on to 15% on its PC Server 300 series. Under the new pricing, effective immediately, a PC Server 300 based ou a 60-MHz Pentium chip with a IG-byte SCSI-2 hard drive will sell for \$4.499. The rver sold for \$4,990 before the outs.

last week was expected to be the precursor to simijor PC vendors as they try to alien their prices with HP'u dramatic cuts, anahats said. Two weeks ago. HP out prices by up to 28% on both PCu and servers

owar in sight pected. There's probably going to be more pricing actions from major vendors, but there's going to be no price war," said Jennifer Munson, an analyst at WorkGroup Technolnetes. Inc. in Hampton.

eq Computer Corp. and GEC Technologies, Inc. are also expected to re-

ce prices in the next few weeks. Compaq gave an rty indicator this week when it cut prices by up to 15% on its LTE Elite note. oks. Prices for the Rite now range from \$2,899 to \$5,799, a drop of \$400 on

the tow end and \$700 eo the high end For the though, HP is trying to set

the pace in the PC market, said Richard Zwetchken baum, an analyst at international Data Corp. in Framingham, Mass, HP is "getting out in front of the market and wants to establish an image of price leadership," Zwetchken-Co/The Seven-Up Co. in Dallas baum added

Jacques Clay, HP'u evoeral manager of PCs, said the cuts are part of a stratogy to raise HP's level of visibility in the overall market. in the past two years, aggressive moves such as this have beloed HP vault from powhere to become the winth largered

seller of PCu in the world.

By Mary Brandel and Neal Weinberg

on The star of the Digital Equipm Corp. Users Society gathering this week in Anaheim, Catif., will actually be Ora-

The database vendor is expected to shed some much-anticipated light on its pricing strategy for the Rdb relational database Digital sold it in September. "I think I'm comfortable with what's toing on, on the technical side," said Ed Homko, a systems manager at Dr Pepper

Pricing for Rdb under its new own ship however is another matter Last week, Beatriz Infante, vice pr dont of epen systems at Oracle, confirmed that the company will employ "in dustry-standard user-based pricing" for Rdb. This will be a jolt for customers accustomed to the runtime version bein

hundled at no additional charge with OpenVMS systems Oracle will not publish a pricing list We intend to run [Rdh] as an ongoing. some pricing changes," infante said. Existing Rdh users will pay the old price until the end of this year, she added.

of its Oracle 7 database that takes advantage of the large amounts of in-line memorvin 64-bit systems. Early next year, Oracle 7.1.6 will be

hie to run in SG bytes of memory rath han disk, resulting in eightfold performance improvement, Infante said. Other key announcements are expect-

ed to include the following: · Aspen Systems, Inc. in Wheat Ridge Colo,, one of the few OEMs using Alpha AXP semiconductors, will become the first outside company to license Digital'u OpenVMS operating system.

• A DECnet/Open Systems interconnect

(OSI) opgrade will allow OpenVMS users to run applications over TCP/IP and OSI "This will obviously be a help to DECnet users," said Michael Goulde, an analyst at the Patricia Seybold Group in Boston. tems will resutt in lower-cost clustering

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Beta users give NetWare 4.1 good grades

By Michael L. Sullivan-Trainor Having experienced the trau ma of migrating to Novell Inc.'s NetWare 4.0 and dealing

with the delays of 4.1, users in this Firing Line evaluation of NotWare 4.1 are more than a

Not only does Novell's latest perating system include long-desired enhancements such as NetWare Directory Sarrious (NDS) but it does so nce or causing any major We were running on Not-

Ware 4.02," said a network consultant at a 1,000-node financial services firm. "4.1 was like a godsend. It's saving me a lot of bassle and time. They've definitely hit the tarcet this time."

Four companies were involved in this evaluation: a ial services firm, a manufacturer, a systems integrator and a broadcasting company. Two of the users were early members of Novell's beta program and each had more than 10 months of experience with the prod-

uct. The other users each had six months of experience. One site had NetWare 4.1 in full production, while the others were still migrating and testing it. The system was running on intel Corp.-based servers from Compaq Computer Corp. and other yendors. The number of

podes involved ranged from a single test node to 1,000.

Ease of installation, migration Set aside some time for this one. The evaluators report-

ed that installation was time-consuming but gitteh-free. The transition from the bindery structure to NDS reires a learning curve, but users reported that NDS is more forgiving of implementation errors in this version

Broadcasting company: "The horror stories that we'd beard about installing NetWare 4.0 didn't materialize." Systems integrator: "It's a big job; it's not a clean-cut de. The structures are different between the bind-

ery and the NDS directories, installing it on one server is no big deal, but if you're going to install on more than one, you need to think about it carefully."

Compatibility
The biggest problem with compatibility, according to

the evaluators, is upgrading the NetWare Loadabia Modules (NLM) from various application vendors that work with NetWare to the current version.

ms integrator: "Compatibility could be better. I expect future NLM applications will come out that work

Financial services firm: "Testing the compatibility with current applications was our primary objective in the beta. Novell worked with our software providers to fix half a dozen bugs with the NLMs we were using. The

problems were solved anickly." curacy and fallure recovery

Accuracy and failure recovery
One major problem emerged in a multiple-server environment. The directory would not recognize one of the servers after the system was rebooted following a failure. Novell attributed this problem to the running of multiple but a major. multiple beta versions of 4. i and claimed it is not a prob-

Financial services firm: "We're transmitting 25G

bytes of data with no corruptions or performance isg. even with compression."



Second and efficiency

Security management

Configuration manage

Speed and efficiency "Much faster" was the description users may Net-Ware 4.t vs. previous versions. One user said it was twice as fact on Version 409 in retrieving data and

applications, including Microsoft Corp.'s Access. Paradox and Lotus Development Corp.'s 1-2-3.

Manufacturer "The Net Ware Link Server Protocol reduced traffic overhead and was a significant improve-

ecurity management Pet peeves swayed the users' views in this area. One user wanted supervisory anthority as a requirement for acasserts the audit assesses An other user did not want to give belp desk personnel the

authority to change passwords Financial services firm: "We have lots of departments and subdepartments. The new structure allows me to nution security access based on how the company is attractured rather than beging to identify each user for has dramatically reduced our management time.

Users said they liked the fact that menu-based com-

mande replaced command line structures in setting system parameters. They also appreciated the flexibility they had to change the directories

Technical support/Price
As beta osers, these customers received special deals

With its much-anticipated release

of NetWare 4.1. Novell. Inc. is finally

delivering on its 2 year-old prom

ise to provide advanced features.

services and, most important, sta-

The latest release of the network

operating system cootains seven

tives claim are essential to building

distributed petworks to take ad

vantage of future applications and

public networks. The crown jewel

is NetWare Directory Services

(NDS), said Richard King, execu-

tive vice president and general manager of Novell's NetWare Sys-

NDS is an object-oriented infor-

sation database service that orga

nizes all network resources - in

cluding neers, groups, volumes and

physical octwork devices such as

printers and file servers - into a

hierarchical tree structure. In

practical terms, all departmental

LANs and devices become one vir-

more services that Novell execu-

By Lauru DiDie

tema Group

on technical support and pricing. Most users reported extra band-holding and unusually fast access to Novell technicians. They also paid far less than average users in exchange for testing the produ One exception was the broadcasting compa ny, which had originally been wen over by the support it received as a 3.x beta user. But this time around was a different story.

"It was not a good process. If f didn't call [the sup port technicians I, they wouldn't care." the user said. garding price, the asers said Novell was going in the right direction. "They're dropping 25% off the price when 4.1 ships." the manufacturer noted.

Novell responds

ry: we united NetWare reds of servers. We dis where we needed to sy

pport: The 4.1 bet ertainly one of the larger and more ambitious be as we've ever done. It was much larger than 3.11.



Seven services debut er to enter a single log-on to access all services enterprisewie

The other integrated core services include integrated message ing, multiprotocol routing and wide-area network support, file and print services, enhanced network management and increased

A key to your ID Of particular note, NetWare 4.1's

NDS authentication previous uses the RSA Data Security, Inc. public key encryption technology that employs a private "key" to verify a us-As an inducement to get the all-

nportant channel to push Net-Ware 4.1, the multiprotocol router capability can be deployed by resellers to remotely manage cur tomer sites, King said.

This is a new business service and revenue stream and should prove to be a big motivating factor to get our resellers to migrate 3.x. users to 4.1," King said.



NetWare

CONTINUED FROM PAGE 1

For others the choice is clean-out and simple in favor of NT Server 3.5. Steve Sommer, MIS director at New York law firm Hughes Hubbard & Reed. said he made the decision to scrap Net-Ware 3 12 and replace it with NT Server

3.5 "almost overnight." Sommer said he chose NT Server 3.5 because of its scalability, built-in value-



NDS will make mi

Those comments typity mentless consenther division the over which ciant has the edge and who will emerge as the eventual winner "The war is Novell's to win or lose They've end the installed base and Mi-

-

crosoft will have to fight hard to get users to switch," said Lee Doyle, an analysi at International Data Corp. in Framing-Rich Edwards, a senior analyst at Rob-

ertson Stephens & Co. in San Francisco, said Microsoft has put all of its marketing muscle behind NT Server 3.5 and priced it lower than NetWare 4.1 by 20% to 30%. depending on the configuration and vol-

There's widespread acceptance of NT Server 3.5 even though it doesn't contain the enterprisewide directory services functionality of NDS," Edwards said: "The word is that NT Server is approaching I million units shipped."

Window of opportunity
The door was left wide open for NT Serv-

er when "Novell stalled for two years with earlier NetWare 4.x releases that were either buggy or didn't deliver the promised features and functionality. Edwards said "Formany pages NT Server was the only viable alternative

NetWare 4.1 incorporates the NetWare Directory Services (NDS) enterprisewide hierarchical tree, which gives busipesses a single log-in for all users and devices spanning the entire network, NDS, along with the integrated messaging capabilities, multiprotocol routing and new network management tools, was designed to make the upgrade from 3.x smooth and nearly painless, said Richard King, executive vice president and general manager of Novell's NetWare Systems Group (see story page 14).

Our feedback from beta-test sites indicates that NDS and the network management tools are cutting the time and complexity of the upgrade and lowering network administration costs by an average of 30%." King said.

John Vorreault agreed. He is the supe visor of technical services at Hoechst Celenese a charmaceutical, chemical and textile firm in Montreal that is migrating from NetWare 4.02 to 4.1. The NDS facility will let us consol data our natural administration second. ing to geographical region, which is a big time-saver." Verreault said, "And the ability within 4.1 to merge the directory

trees will allow our 10,000 users to

shout North America Verreault also praised the advanced file compression capabilities in NetWare 4 1 which he said has doubled the com

pany's disk storage capacity soft of at least one potential weapon on the price front when it eliminated the price premiums for 4.1 that it had estab-

lished for NetWare 4.x.

from of observe to 4.1. And NotWork 3 years ers who are upgrading directly to 4.1 will pay \$165 for a 10-user liceuse, \$2.785 for

100 users and \$4,995 for 250 users. Novell will now give NetWare 4.1 cus tomers the option of purchasing 500- and 1.000 user versions of the network or ating system, priced at \$6,295 and \$5,395 respectively Kingsaid.

sts see slow NetWare move. See page

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(th yeah, Jim, treat it like turtle soup, and make it snappy.

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OMG approves object standard

Ry Jean R. Bozman

After two months of intensive behind-th access wrangling among vendors, the Object Management Group (OMG) finally agreed last ek on a de facto standard that many users holisto will become the corneratone for distrib-

The OMG set its stamp of approval on Com mon Object Request Broker Architecture the two-way communications between different vendors' object request broker implemen-

The group's secret ballot vote of 15-4 officialby made the TCP/IP networking protocol the nical underpinning for moving objects over LANs and WANs. But the choice was controversial because IBM, Digital Equipment Corp. and wiett-Packard Co. backed an alternative sa) for the Open Software Foundation's (OSF) Distributed Computing Environment

Microsoft support a mystery The new standard has the support of major sys-

ems vendors and software vendors. But the exent to which Microsoft Corp., an OMG member. will support the CORBA 2.0 standard in its products is still uncertain - and that is caus ing some confusion, users said. Microsoft proposed a link between CORBA and its Object Linking and Embedding (OLE) technology in ember it is still under consideration

The CORBA 2.0 standard specification will start appearing in various vendors' products by next fall, but users are not expected to use octs widely until the late 1990s, industry an-

alvets said lest week We are still waiting for implem said Tsvi Gal. a senior vice president of information technology at BankAmerica Corp. in Concord, Calif. "Since [the OMG vendor mem-hers] are using TCP/IP, which is the lowest common denominator these products shooki come

Even after CORBA 2.0 imple ipped, users will spend a lot of time evaluating them and cetting up pilot projects, Gai said. But to accommodate large systems vendors and user sites, CORBA 20 also supports the DCE as an option [CW, Nov. 7].

Stanford University, an OSF member, plans to migrate to DCE networks next year, said Reman Khanns, director of distributed computing and communications systems. He said he ges the OMG and OSF standards - as well as Microsoft's OLE - will be on the same track

"We're doing some prototyping using ob-cts, but there's this whole confusion about which approach to use: the CORBA approach Microsoft's OLE," Khanna said.

Yet while CORBA 2.0 is now a standard specion, vendors still have the option to imp

et it in many ways. Every vendor will have a CORBA-or [object request broker], and then it will have some proprietary extensions — additional bells and whistles," said Natasha Krol, director of advanced information man advanced information management strate-es at Meta Group, Inc. in Stamford, Conn. This game is as old as computers."

CA-Unicenter gains SNMP support

all n response to customer demands, Computer Associates International, Inc. has added Simple Network Man-agement Protocol (SMMP) support to its forthcoming release of CA-Unicen-ter 1.1, which will ship this week.

The feature will allow the systems management package to interface more seamlessly with network man amment products such as Hewlett Packard Co.'s OpenView and Sun Mierocystems. Inc.'s SunNet Manager through SNMP management information have agents, it reflects yet another move by CA to respond to CA-Unicenter's shortcomings, as identified by

In Angust, CA stashed the price of CA-Unicenter by up to 88%, a move aimed at Inring prospective low-end omers that otherwise could not afford the package [CW, Aug. 29]. Last month, CA began intograting into CA Unicenter a cross-platform software distribution tool and two intelligent agents designed for database and sys-

tems event detection [CW, Nov. 28]. By not allowing CA-Unicenter 1.0 to integrate easily with complementary nackages, "we made some mistakes

said Yogesh Gupta, senior vice president of open systems at CA. By providing SNMP support, the systems management package will, for example, let

systems administrators detect a failed node on a network

ood reception The SNMP capabilities have been well received by CA-Unicenter customore which were forced to write and maintain their own interfaces among complementary nackages

That type of Beribility should make Unterpter much more available to other products and should reduce our maintenance requirements," said Peter A Ginocchio manager of

computer operations at Central St Health and Welfare and Pension Fund. a funda manager in Rosemont, fill. Gipocchio said his company plane install CA-Unicenter/Star to interf with mainframe packages such as CA 7 and IBM's Information Management

We're !

anfronce utilising Commerce Clearing House, Inc., a Riverwoods, Ill., provider of tax and

business law software and services, had been using CA-Unicenter t.0 to manage seven Unix-based HP 9000 the company's core business applications. Commerce Clearing House's beta testing of CA-Unicenter 1 than shown the unered

ed product to offer more robust tape management while consuming fewer systems resources, sale Dave Dubnick, manager of technology operations "Many of the features in Unicenter 1.1 are those that we asked for 7 Dub-

Still there are so limits to SNMP capabilities. For example, sysadministrators

would be hard-pressed to use the protocol to manage multiple platforms over a wide-area petwork stration because a high volume of petwork traffic would make those dentions difficult, according to John Mann, a senior analyst at The Yankee Group in Boston. "Rut it is reasonable for Unicenter to

poll on a local-area network since it's nol "Menn added

Digital mulls Motorola bid for plant

U.S. Alpha shipments

SNIPMENTS (in thousands)

Source ModeGreen Ter

Digital Equipment Corp. last week confirmed that Motorola. inc. has offered to buy Digital's Alpha AXP semiconductor

plant in South Queensferry, Scotland. Digital Chief Executive Officer Robert Palmer has been oncouraging offers from other chip manufacturers to help his company deal with its money-draining overcapacity problem. The South Queensferry sale would solve that problem and not the company some much needed cash - any-

where from \$100 million to \$200 Digital does not have the volume to support large-scalo fabrication. but Motorola, the world's secondlargest semiconductor manufacturer, does, said Andrew Allison editor of the pewsietter "Inside the New Computer Industry in Carmel Calif

Details of the possible sale are ketchy, but the most likely see pario, according to Terry Shannon, an analyst at Illuminsta in

Ashland Mass, is that Digital will consolidate its Alpha chip production into its state-of-the-art. \$425 on plant in Hudson, Mass.

That facility is testing Digital's powest generation of Alha chips, the EV-6, with full production slated for 1996. The outh Queensferry plant and an older plant in Hudson proon the current EV-4 and EV-4/5 chips.

When Digital launched Alpha two years ago, the compe said it was vital that the chip become an industry standard ductor manufacturing could become self-suffieight through the sale of chips to other companies. "It obvi-

onely hasn't transpired the way they'd like," said Georgi Elling, an analyst at Merrill Lynch & Co. in New York.

Digital's Alpha sales this year increased 154% over 1983. And Alpha sales have surpassed VAX sales, according to the latest quarterly results The sale of the South Queensferry plant is not expected

to impact Digital's ability to meck Alpha demand. But one possible wrinkle in the plant sale involves Advanced Micro Devices, inc. (AMD), which has a contract with Digital into 1996 for 496 chips produced at South Queensferry. A sale would have no effect on the contract, said Jim Lochmiller, an AMD

> Too last for its own good The contrast between Meterola's and AMD's thirst for chip manufacturing space and Digital's overeacity raises the larger ques tion of why Digital has been unable to generate sufficient interest in Alpha's 64-bit technology Two years after the company introced Alpha as the cornerstons its comeback strategy, the chip is in danger of becoming just a house

The irony is that while everyone agrees that Alpha is a fast, powerful chip, it might even be too fast.

"It's like starting an auto company and coming out with an antomobile that does 200 miles an hour. If you don't have the roadways to take advantage of it, and if the primary nee is commuting, then you don't need the extra performance said Franc Romano, an analyst at Aberdeen Group in Bos-

He said Alpha has the potential to become a major force in the growing fields of multimedia and video imaging.

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Few IS projects come in on time, on budget The research firm recently surveyed Jack Cooper, chief information officer at

Application development projects are still the black eye of some information one organizations: Nearly one-third of all projects fail and more than half nome in over budget

The good news is that more than half

report said there are actually fewer failurns today than there were five to 10 years ago.

These and other findings are part of a report. "The High Cost of Chaos." reeased last week by The Standish Group International Inc in Donnia Maus.

365 companies that together represent more than 9,000 development projects According to those respondents, only 16% of all projects come in on time and

This is disappointing and disturbing but it is consistent with reality," said

Joseph E. Sesgram & Sons in New York. enting on the survey results. Also, the higger the company, the higger the problems, the Standish Group report said it found that large corporations—defined as baving more than \$500 million in revenue - typically have low

The ups and downs of software projects liker involvement Executive management support . Proper planning Pealistic expectations tack of user input incomplete requirements and specifications Changing requirements and specifications Lack of executive support Technological incomp er-than-average success rates with development projects.

Coming in with a 5% success rate, large companies suffer from projects that are too large and have too many requirements to fulfill on a timely basis, the research firm said.

The Standish Group reported that in the average large corporate project, only 42% of the planned features and functions end up in the final version of the

Always late, always over Some industry analysts suggest that

some of the Standish Group results are too conservative and the percentages of cost overruns in particular are likely higher. Year to year, you would hope the per-

centages would go down, but projects are always late and over budget," said Ed Acly, an analyst at international Data Corp. in Framingham, Mass The Standish Group reported that one

reason projects still fail is because IS typically sweeps disasters under the ray instead of learning from them. "With all the methodologies and soft

ware engineering and so forth, we still don't know why they fall," said Standish Group Chairman James H. Johnson. Cooper said he suspects projects flounder because all the new technol-

ogics and design tools cannot take away this basic fact: The essence of a development project in turning abstract concepts into working products. "Creation and construction are al-

ways difficult," Cooper said, "There is no



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In Touch with Tomorrow



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see how inaccurate it really is. Not one person, for instance, is shown trying to manage a corporation's distributed systems. You can probably forgive the artist for this oversight. But you may be wondering when someone will deliver the management software that can help you take care of this mess. At Legent, being that someone is what we're all about. And so far, our efforts have resulted in the most extensive set of industrial-strength. distributed systems management tools available. We've also developed an open architecture called XPE that we think is pretty remarkable (some of the toughest analysts in the industry tend to agree). XPE lets our software work together across almost anything you can wire together, regardless of function or platform, from mainframes to UNIX workstations to PC LANs. Which means you can manage your distributed systems from the platform of your choice, something our customers tell us has definitely made their lives easier. Is it Paradise? No, not yet. But we can promise you one thing: It's a lot better than where you are right now.

Users still wrestle with E-mail privacy

Lack of clearly defined policies leaves many wary By Suruchi Moham World conference in Boston said.

The thorny ethical questions raised about managers reading their employ-ees' electronic mail remain largely unresolved,many users at the recent E-Mail

To some employees, E-mail is the ele tronic version of a scaled letter and prefere encreased. To them, reading another's E-mail is clearly unethical. Vet others aroue that expensive per-

ing - though hardly desirable - at least instifiable

Network administrators do have to about a series well stored on the network is obstructing traffic. However users stressed that even those reenonelbilities do not give administrators

"Most employees think E-mail is neranal: it is not." cautioned Fred Lyell, se-

nior product manager of clinical systems at Columbia/HCA Information Services Inc., a health care corporation in Nashwille A cortain amount of personal traffic over E-mail should be permissible, such

as asking a fellow employee to schedule tunch, he added, while exchanging gos sin about office romances quest to be Nina Burns, president of Creative Net

works, a consultancy in Palo Alto, Calif., said privacy sur-

rounding E-mail should be the same on that around intenoffice mail which is regarded as personal. But that is not the

case because of the difference in the me dium, she added. If privacy needs limit the ability of administrators to monitor traffic, the network can end up in trouble Many employees assume that ethical considerations will keep managers from reading their E-mail. Yet this assumption can be dancerous when a company has no stated or written policy on E-mail pri

vacy, said Dave Bonisar, a policy analyst at the Electronic Privacy Information Center in Washington. The lack of such a policy means that neither managers nor employees know where the company stands on privacy issues. And an overwhelmingly large num-

ber of companies do not have a written nolley making them vulnerable to law-When companies do not have a well-Fortune 500 corporations - are defined policy, they also face the danger addressing critical client/server

that emptoyees will misuse E-mail or that overzealons managers will trip themselves up in embarrassing situations. said Walter Ulrich, a director at Arthur D. Little in Los Angeles

False sense of security Many users feel that having passwords

guarantees their privacy, explained Bill Moroney executive director at the Electronic Messaging Association in Artington, Va. "Once they have the password, they feel no one can set into the computer or open the mail," he said.

But petwork administr tems such as Novell, Inc.'s NetWare can indeed read E-mail. That capability bothers Scott Schultheis, a PC network succialist at Central Soya in Fort Wayne, Ind. "Even people with supervisor's rights on the network should not be able to read the president's mail," he said. Yet managers should have the ability to see

whether their direct reports are doing their assigned tasks, he added. Because it is possible to steal informa-tion and harass fellow workers using E-

mail, employers do have to walk a fine line between taking the Big Brother approach and protecting their assets and yoes, Moroney said. E-Mail World news. See page 64.

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Civic networks concern open meetings advocates

By Mitch Betts

They have names like CityNet, StateNet and Electronic Town Hall. Almost every week some state or local agency starts a computer bulletin board, internet link or civic network in bopos of improving citi-

zens' access to government.

But some resourchers worry about a
darker side: The electronle-mail networks could be used by government officials — intentionally or soi— to circumvent the "sussbine laws' meant to keep
government meetings and records ones.

to the public.
"E-mail is a marvelous foot, but there will be a temptation for public officials to confer with colleagues on topics that would violate the open-meeting laws in some states," warned Bill Chamberin, director of the University of Florida's Brechare Contes for Freedom of Infer-

mation in Gainosville.

The danger is that agencies, boards and councils will deliberate on official business via private E-nail or electronic conferences, experts said. Coancil members could cut a deal in opberapace on where to mat the next trails dumn, for extent

ample.

A few cases have already emerged. In 1991, the Santa Monica, Calif., school board had to close down its private computer conferencing system after the city attorney said it violated the state open-meetings saw More recently. Florida in al-

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Some April 1995 show to Suna C. Hou, Devices Code for Processes of Information Codes for Processes of Information Codes for Processes of Information Codes for Codes of Information Codes for Information Codes for Codes for Information Codes for Codes for Information Codes for Codes for

law, Chambertin said.

A looming threat

Although there is little case law on electronic evasion of sunshine laws, experis are worried because "teleconferencing is alrendy a problem, and E-mail is an

even more convenient tool," noted Harry Hammit, editor of the newsletter "Access Reports" in Lynchburg, Va. Open-meetings laws typically apply when a quorum of council members deliberates on government business, with the exception of closed topics such as

closed topics such as personnel actions and pending litigation. The laws usually require advance public notice of government meetings and public release of the minutes and votes taken.

But the legalities vary greatly by state, especially when it comes to coverage of electronic discussions. In Florida, the open-meetlers has would apply

even if just two officials discussed government business via computer networking Chamberlin said.

Suana D. Ross, a research fellow at the Becchaner Center, and her recent study of the 50 states found that more than half restrict or prohibit electronia meetings for government bodies (see map). On the other hand, eight states have taken no stand on the issue and may need to updute their lines, the said.

Even a conscientious official may have trouble obeying the rules, however. For one thing, a jurisdiction's court rulings, state laws and administrative procedures are not always in agreement on what is proper sunshine conduct, Ross said. Chamberlin added that public officials get very little training on sun-

shine ethics.
"Rather than try to police it, which would be impossible, just put up a warning notice (on the system) not to conduct government transactions," saggested Mile Godwin, staff counsel at the Enctronic Frontier Foundation in Washing.

- 1

Legal 'Instances' Henry H. Peritt &r., a law professor at Villanova University in Villanova, Pa., maintains that the open-meetings laws are properly focused on the government decision-making process. He argued that there should be no problem with networks focused on online access, fact.

gathering and opinion gathering.
"These experimental networks should not be held back by funtasies about legal problems." Perritt said.

No one is arguing that the new civic networks should be ditched — only that aunshine features should be built into the avadem

"Electronic meetings can be used to exclude the public or they can provide a whole new avenue for increasing access to public meetings." Boss said. "It's a very deficate balancing act."

Feds resist upgrade

CONTINUED FROM PAGE 1

"This is a controversial, confusing issue," axid a bank official who asked not to be named. "We have investtreemendously in (eurered encryption technology), and righthuly so. Unfortunately, we are moving to change, and any change is costly, and any change may not be exportable." Eddie Zeitler, vice president of information security

at Fidelity Investment Co. in Boston, noted that while the DES algorithm "has held up incredibly well over 20 years," the lease is the 56-51 key length. "Machines are getting fast enough now that it's possible to do a bruteforce search to find a key that works," he explained. Many people respect that the government, led by the National Security Agency, opposes the export and widespread adoption of triple-DES because the agency fears triple-DES would also boost the security of spies and eriminals. Moreover, the NSA opposes export of any strong energyino option that competes with its own "key-secrow" method embodied in the controversial Clipper chip.

For the record, the NSA says it is opposed to triple-DES because it may be flawed technically — a matter of dispute among cryptographers.

"We have this irony that you can't export triple-DES, the have this irony that you can't export triple-DES,

we nave uses fronty that you can't export trypic-visbut if it were really full of holes, the NSA wouldn't care about exports," said Mike Godwin, staff counsel at the Electronic Frontier Foundation. "What they really want to do is undermine confidence in alternatives to key-

escrow systems."

Harold Deal, chairman of the ANSI-accredited X9 is committee for financial services standards and a vice.

president at NationsBank Corp. in Charlotte, N.C., said a hank could in theory avoid the export issue by buying triple-DES products from foreign suppliers. "But we worry about what the [government] would

"But we worry about what the [government] would say when they audit us," Deal said. "If there's a law that says you can't export triple-DES and we're using it in London, we would at least be open to some criticism."

The XS committee recently sent ballots to its mea-

bers asking whether it should proceed to develop an ANSI standard for triple-DES. An earlier ballot brought a "no" vote from the NSA and an unausually high number of abstentions from member banks — reflecting the uncertainty that surrounds the issue.

Some users have not taken kindly to the NSA's efforts to block the development of a standard for triple-DES. "We need the ANSI standard for interoperability." Zelt-ler said. "We use single-strength DES now because there is no agreed upon way to implement triple-DES." Stunches T. Kent. chief accionate for security sechnol-

ogy at Boll Bernacek and Newman, inc., said the banking industry's interest in triple-DES is mispiaced because triple-DES is aimed primarily at strengthening confidentiality, while the industry has traditionally been more worried about message integrity and nser authentication.

Keni and banks should be moving to the newer technology cashedied in public-key cryptography and digital signatures, which offer better guarantees of integrity and antheatiestics. "Going to triple-DES doesn't make a tot of sense," be said. "It is tweaking the wrong part of the each titon upper."

Stephen T. Walker, precident of Trusted Information Systems, Inc. in Olemwood, Md., said banks may have little choice. "As I look at the options now, I view triple-DES, correctly implemented, as the only plausible path, be and. Other algorithms simply have not been around long enough to establish confidence in the marletoince, he added.

An option in the wings

Bart R. Belisle, former chairman of the American Bankers Association's information ayatems excurity committee, said the banking industry and the NSA could conceivably agree on a strong, exportable encryption scheme to replace

DES. But it could not have the drawbeach of the CLI, government holds the large to unlocking measures. "I do not support Clipper, but it do recognize the meet to move beyond DES," said Belishe, who work at a large U. So hant. "Maybe lony-encore ins' in the had idea in another implementation. It could be us Measwhile, although it has not made a formal nanouncement, B&A hata Becurit, the in Redwood City, Calif., has developed an encryption algorithm, called RCS, and to overcome the objections to DSS. RCS is 60 times as fast and 6% as bigs an DSS and can be configured by a user to be far stronger, said. Jim Bildnos, president of RSA. The user can vary the key size, data block size and other factors important

by any and some and other accors important to efficiency and executity, he said. Bidson said RSA will publish the specification of RC6, allowing anyone worldwide to implement it and

eby sidestepping the export issue.

— Gary H. Anthes

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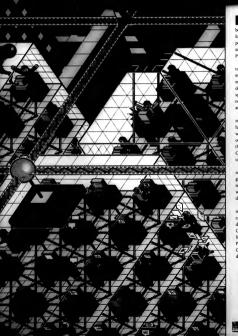
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Computer Industry

Briefs

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TI settles Cyrix suit p maker Cyrix Corp. in hardson, Texas, last ok said it has settled a Do aber 1863 lawsuit against

y paid, royalty-free li-o for the Cyrtx 496SLC/ nd Computer Corp. has ed James Oyler, 48, to

of Oct 30 a 47% in

Intel should ride out chip storm

M Although the uproar over the floating-point flaw in Intel Corp.'s Pentium chip shows few signs of blowing over, ana-lysts say they doubt much long-term damage has been done to the company or the controversial microprocessor.

Yet the black eye intel received in the ordeal could dramatically improve its vision of the marketplace, observers said.

"Intel learned that they are now a cor sumer company. Though they see themselves as just a chip vendor, when you spend \$150 million advertising yourself, you become a consumer company," said David Wu, an analyst at Wall Street broker S. G. Warburg & Co. In New York

In fact, Intel's failure to react like a consumer company may well have precipitat ed the crisis, analysts said. They point to the fact that while Intel stumbled to explain itself only after the jume had reached nearcrisis proportions, several systems ven

dors were staging little publicity coups of their own Vendors such se IBM, Compaq Com Corp. and Dell Computer Corp., for instance, quickly announced telephone hot

lines and special programs to help custom ers affected by the flaw, generally giving the impression of having things well under control, analysts noted." ment harklash from a segment of intel's created by the advertising campaign for

Intel started off the year by telling the whole world that they would blow the win-down off the 486 with Pentium, and everyone was salivating to get a hold of one,"

said Tony Massimini, an analyst at in-Stat Research, Inc. in Scottsdale, Ariz, So when news of the bug got out, it triggered widespread reaction, be said The Internet was particularly effec-

tive at spreading the word, first within its own community and then beyond it, analysts said. With Intel trying to underplay the offeets of the bug and usore anything to det more technical details about it, the internet swiftly became a breeding ground for both in

ermstion and wild speculation.

Even Intel Chief Executive Officer Andrew Grove's public letter over the Internet did tittle to as sunge concerns about the flaw with users seriously stioning the credibility of the com

pany's explanation.

Commercially, however, the impact is likely to be minimal for Intel and the sys-tems vendors basing their designs on the Pentium processor. While intel stock slid somewhat in the first days of the controversy, and stock prices of Pentium-pushing companies such as Gateway 2000, Inc. and Deli took a hit, they are unlikely to remain eted for long, analysts agreed. And despite the initial concern triggered

tel's combinations wonders said they are quarter will still he on target. Before the controversy, intel predicted it would sell between 6 million and 7 million Pentlum chips, although analysts pegged the figure a bit lower at 4% million to 5 million.



termet did little to correcce were concerns

The uproar could also prove to be a doz bie-edged sword for intel's rivals. Some of the anger over intel's attempt to downplay the flaw could lead to greater scrutiny of emerging Pentium-class chips from companies such as Advanced Micro Devices, Inc.

By mid-1985, both AMD and Cyrix-are scheduled to start volume shipments of their K5 and MJ families of Pentium-class

Cray Research overhauls management team

The ofber shoe just dropped at Cray Research, Inc. After starting a manufactur ing overhaul in September to speed turnaround times on its systems, this month Cray anacunced a far-reaching man agement reorganization. The changes include the retirem of its chief operating officer and the melding of its commercial market operations into a single

Cray said the sales forces for its various products will also be ined into a single orga zation to present a unified face to customers. Meanwhile, corporate marketing will be separated from sales and handled by a new group. It is expected to be run by an outsider to be

sive company in which engineers no longer call all the analyst at International Data Corp. in Framingham, Mass. "There has always been tre-

dogs tension in the organition between engineering

are aimed at getting Cray more

market. Flat demand for its big

supercomputers, coupled with

workstations, forced Cray to

abandon its old marketing

strategy, "build it and they will

come," according to both ann-lysts and company officials.

Changing of the guard

The management changes should produce a more aggress

ased competition from

in step with today's come

restructuring completely shifts Gary Smaby, president of The Smaby Group, Inc. in Minneapolis, agreed that the Dec. 31 retirement of Lester Davis as Cray's COO "will certainly change the cultural skew of the

Davis, who will also resign from the board of directors oversaw the design and manu-Incturing of each Cray machine since the company was found ed in 1972. By contrast, his designated replacement, Robert Ewald, is "more of a corporate

manager than a designer him Cray said the departure of Davis was "coincidental" to the other management changes But a spokesman acknowledged that the company is try-

Cray's revenue and profit essed in the first three quarters of 1994, but incom orders dropped from \$463 mli-tion in the same period of 1983 to \$311 million. Goldfarb said 1995 is likely to be "an extrem ly tough year" for Cray becar of fiercer market competit and product transition issu

as it introduces a new high-end

As part of the rouge tion, Cray formed a new Bus ness Systems Division to spen head its commercial market ed in the unit are the company's un Microsystems, Inc. SPARC group working on decision support applications and Sa-vant/Cray Solutions, a recently

acquired integrator of data

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These technologies are leading the way for everything from video-on-demand and home shopping to interactive education. Our commitment to R&D remains unchanged at Digital. What has changed is our way of going about it. It used to be that the hardest part of R&D here wasn't coming up with the ideas. It was pushing them through the system.

So, we've changed the system. From one of Byzantine complexity, to one of resolute clarity. What exists today at Digital is a system where the scientific and pragmatic go hand in hand. A system in which ideas are born and nurtured not just to promote innovation for innovation's sake, but rather, to help customers in real, meaningful ways.

What it all comes down to is this. Digital was, is and will continue to be one of the biggest proponents of research and development in the country. For one simple reason. We believe that investing in the future is the smartest way to secure your place there.

For more information, please cal 1-800-DIGITAL or you can reach us via our Internet address: moreinfo@digital.com.



Wish list

To: Santa Claus Fr Rill Laberia Re: Lost Xmas list

This list must have fallen from the briefcase of an is director at a recent conference, where I found it on the floor I'm forwarding it to you

For starters, my peers and I would like some repect. While we're trying to create order from chaos, we have renegade user departments rolling their own, and my boss is blaming me for skimpy increases in productivity Soons in four people like me gets fired

The next thing is related to the first: I'd like more integrity and honesty from vendors and less hype. My boss thinks elient/server systems are a snap because selespeople did an end run and went right to

sy told him Cobol is a 19th century tool. I told him we have very few 21st century programmeo'artisans. He

Then I'd like a version of Net-Ware 4.x, complete with batter-

ice And please don't delivera version that will only force me to stand in those endless return lines at Toys R Us Could I also have a nice PC with lots of chip-level logic so I can future out some of these

systems software licensing deals? I thous hard figuring out how you know where all of us live. but that's child's play compared with sorting out these deals and schemes. I have thousands of Windows users, and they are

all going to want Windows 95 if and when it ships next year. I have very little training money, so could you this deliver a version of the software that is virtually self-teaching and totally backward-compatible? No? Well. OK then, how about a weekend with Cindy Crawford now that she's on her own? You are not the subversive type, I realize, but might

you consider infecting all hard drives with an antiom virus? Or maybe have the screen saver pop up every time a programmer logs in to alt. sex.fetish on the internet? We really need to get some work done around bere.

Turnsboot is fair play, so how about throwing the consulting companies that so ardently push the nuke the existing IS operations re-engineering mantra into a re-engineering tailspin of their own? They'll be so busy cleaning up the mess that they won't have time And finally, I'd like you to bless me with the techni

eal knowledge of Leonardo da Vinci, the business acu-men of John D. Rockefeller, the negotiating skills of Henry Kissinger and the people skills of Dr. Ruth. That seems to be what it takes to succeed these days. Barring that, is there anything available up your way?



Internet: blaberis@cw.com



Tech tools do give us more time

Patricia Seybold made a great noint about knowledge workers being both enabled and overwhelmed by their technology environments ["Why isn't information technology giving us more time?" CW, Nov. 14]. But let's not be confused about why we're working as hard as we are. The stress in our lives has to dowith economic forces far beyond the scope of soft-

ware and hardware I need to make more money becoupe my taxes are up, my home is no longer appreciating in value. iousy public schools force me to send my kids elsewhere, I have no faith in the Social Security system. etc. Business is also more competitive because technology allows more companies to go after my customers, and it makes it easier for my customers to choose from

geographically distant veodors. Personally, I don't blame my tech tools for the challenges of my work life. As a matter of fact, without them I don't think I'd have any time to eat, sleep, work out or play

with the kids

Lenny Liebmann Hightands, N.J.

DOS is the problem

Another "news" story about a virus infection ["Die Hard 2 virus attacks PC productivity." CW, Oct. 31]. More than 100 PCs crippled in a San Diego LAN. More talk of reli-

gious use of virus scanners and owners indimnation Slat Here we have a sophisticated

ment network of 500 PCs that doesn't seem to realize the ramifications of using an unpro tected system such as DOS. And we have a major industry journal that doesn't report the incident as a failure of DOS.

It's time we face up to the fact that the 640K timit is no longer justification for tolerating DOS. Protected operating systems and file systems have been around for decades: instead of writing virus scanner policies, let's move our infrastructure into the 70s.

Senttle

Not too bright

es Johnson had to go to the r side to come up with an ex aple of a "bright side" of cli st/server technology ("Client lov. 141. To use an ex changing from a m tem to a computeris and then ore

is stretching the po There are any nur nebalf shel

arcial application try on the legi on f me ity gains had it fo James & De

Client/server didn't bounce everybody

The client/server shuffle" [CW. Sept 26) was for the most part an accurate description of changes in Lincoln National Corp.'s informa-

tion systems operations. However the article said that during the past three years "hall the IS staff ... found themselves out the door." While it is true that we have reduced IS staff by balf, it is not true that all of those employ ees found themselves out the door many found jobs in other areas

of the corporation. Second, and more important the reductions were not solely due to implementation of client/server technology. While client/server has enabled end users to do many of the things they previously relied on IS for, the reduction of jobs was influenced largely by the sale of a

major business unit in 1982. Bob Malil Senior vice president Information services Lincoln National Corp Fort Wayne, Ind



extensed welcomes cor from its readers. Letters may be edited and should be addressed to Bill Labe Editor in Chief, Computerworld, P.O. Box 9171, 375 Cochituate Road, Framingham, Mass. 01701. Fax number (508) 875-8931; net: letters@cw.com, Please Include an address and phone number for werlf-

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The wild, wild East

Ted Lewis

Notes users to worry about.

to bring industry into

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You don't have to

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ed and chean

ut of Delta Air Lines Flight 60 and into the growy terminal where the drinking water is more dangerous than the KGR. I shoffled my way through rows of high-tech client/server systems to verify my status as a passenger from Frankhirt These systems were run by the Russian cast of Frank Horbert's Dome, but the operators were supervised by Delta employees who pointed out which buttons to push and demonstrated good old Western cus

tomer-is-always-right attitudes. This would make Tom Peters smile, I thought, as the clerk asked me in perfect English how long I was staying in Moscow, what my business was and how much money I had. Blunt but efficient. My Russian bosts picked me upat the airport and transported me in the lan of Lada luxury to town. Along the way I saw a black Mercedes timo pult up and four New Russians in Nike sweats and Reeboks step out to do businoss with roadside entreprepeurs. Protection busi ness, according to my hosts, who merely smiled. Do you want to pay taxes or get your money's worth from the mob? Do business with

KGBers, and you make the right connections: You want a good deal on a computer? A network? A link to the Internet? Gress who the capitalists are in the former Soviet Union? Russia is the land of socialists-turned-capi-

the 21st century betionally well educat-

roll in that nifty Mi crosoft Windows NT server because there is no IBM, Digital, Unisys. Sup or Apple No installed base, but vou can buy almost any computer you want. No hierarchy of bu-Yeltsin, and it's money down the drain. Do busi requerats to answer to. Just you and the mob. ness with what people just know are ex-

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multiple clients

multiple servers

per server but

A good IS shop could elean up. No need to waste valuable resources converting from Novell to TCP/IP to Banyan's Vines. Novell's CC:Mail, Microsoft's Exchange, Apple's Power-Talk and X.500. They don't exist yet. No need

talists, vet-to-be-made J. P. Morgans and pato buy 10 middleware pieces to solve the pu per-and-pencil legacy systems. What a gold of getting data from warehouse to desktop. No mine for 181 No IRM/Cohol place house, no mulneed to arme the merits of DOS. Windows. timedor networks and no installed base of Macintosh OS/2 Presentation Manager of Mo tif. As the ezar of Russia, Inc., you can select Just think: Your time machine lands in 1930 the best and the latest hardware and software stuffed with 1990s technology. Your mission is It will plug and play and slice and dice because

You don't have to

ancient IBM or

will out on

business processes dards, vendors and

decisions. Maybe the Rus have some thing we don't less regulation, less buresucracy, less tostalled base, less tegacy with which to

deal. Perhaps, but my guess is that the land of St. George the dragon slayer will have to slay the legsey dragon just like the rest of us in 10 years. I have seen a whole new generation of legacy systems under con-

struction. It was kind of exciting. Lowis is chairman of computer science at the Naval Pasternatural School in Monteyer, Calif., and neltor in

chief of Computer magnatus.

Diatal legacu sustem before you roll in that niftu Windows NT server because there is no IRM. Digital, Unisus, Surror Apple.

The real value of client/server

Max D. Hopper

countly in this column ["Pashions in technology: Are your IS solutions PC?" CW, Aug. 1], I took issue with those who promulgate the notion that the networked small systems and distributed architectures known as client/server will soon re-

place mainframe-based systems. Centralized processing and mainframelevel capacities are so intrinsic to the nature of many core busi-

ness systems that no total replacement scenario is likely to he cost offeethin on functionally capable Those who deify small systems and damn existing aystoms have framed

their views in terms of such specious questions as "Are your systems mainframe-centric or PC-"I would suggest that the appropriate

view should be network-centric. This architectural approach draws upon the entire spectrum of technologies, using each where it makes the most sense and allowing them to work together Viewed from this perspection the emetors

mediato strengths of small systems are complementary ones. They offer capabilities and melits beyond what our existing systems deliver in fact, many companies use the nimble life into their systems. By applying client/server tools, we can break our core business systems out of the glass house and extend them into the workplace with application-specific interfaces that reduce training time and invite

broader access The immediate val-It will be a world ue of small, networked tools lies in their ability to into grate information technology with the way people work. Systems should accept input from a variety of devices, thus

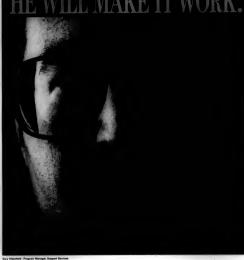
allowing mason to

eapture data where it is generated or request information via tools that are consistent with their skill sets and individual needs. Likewise, system outpi oald not be data but answers - more pertinent, personalized and timely information presented in a variety of forms, each appropriate frame of reference to maximize productivity:

Small system technologies allow us to approach these ideals. Compared with previous approaches, they enable us to provide more in tultive solutions and meet users more on human terms instead of forcing them to emplate machines. The system interface activity becomes a seamless part of the work process. end to end, as opposed to a handoff or interruption in the workflow

The corporate network environment that embodies these attributes will typically in volve multiple computing devices working toents per server but multiple servers per client. As technology rosts decline, another aspect of these myriad network links will be multiple clients per user - a diverse array of stationary and mobile devices tailored to both busing and individual needs for phiomitous access to system resources. The servers will encompass cessing platforms of every scale as the needs of the specific business dictate. And business imperatives alone will dictate wheth er any given data sot is dispersed, distributed or centralized. In short, while client/surver sp

proaches are not the new paradigm of enter prise computing, per se, they will play an in strumental role in any IS strategy that hopes to achieve maximum business advantage Hopper in chairman of AMR Corp 's The Salve Group



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Windows 95: Pains bring gains

System deemed functional, clean, potent and other Inefficiencies ste

Ry Garrett N Ray

Good-bye program manager. Sayo para Program Information File (PIF) editor Adios DOS Hello Windown 95

To call Microsoft Corp.'s oaseent

tt shares little with the current Windows other than its name, ap-

plication compatihility and evneral operating characteristics. The finished product is scheduled to be re leased in the first half of next year

A from the ground-up overhaul of the decade-old combination of MS.DOS and Windows Windows 96 is a clean, functional and notent operating system for desktop (and laptop) systems.

Windows 95 is the realization of a goal that Microsoft officials have been discussing for at least five years: the total abolishment of DOS. It is a seosible and long-needed banishment because DOS has anddled Windows with the exile of cight-character file names, terminate-and-stay resident device drivers. Incompetent multitasking

replacement of Windows 3.1 a mere upgrade is to believe that similar names imply similar products. In fact, a test of the M7 beta passion of Windows 05 shows that

> to make Windows work. Also important is that with the widespread and alobligatory use of Intel Corp. 80386 and 1486 processors on the desisten Microsoft

designed a Windown that makes extensive one of the Intel 386/486 and Pentium "protected mode" to improve a wide array of multitasking and device-management func-

from its sizes, 1993 bestter

But no more. First, DOS is no

longer a separate component of

the operating system. It remains

es a Windows 95 facility that can

run DOS programs, drivers, the

DOS shell and the DOS command

line, but it is no longer the archi-

AUTOEXEC.BAT and CON

PM OVO while they can be used to

maintain compatibility are no

tectural foundation of Windows

Windows 95 won't work at all on those old 80286 boxes, by the way, so consider making your taxdeductible equipment dotations by next summer

Where does protected mode help? Take network management For years, information systems personnel have perionted between the Scylla of network driv-



olt's Windows 95 presents a generic Start button as the point of entry to a hierarchical menu of applications

> ers and the Charybdis of limited PC memory Add a new network protocol to the organization, such as TCP/IP and crash into the 640K harrier of the old "conventional nory" space.

> The more drivers you add to your systems, the less convention al memory is available to applies tion programs. It's ludicrous but true that both network and organizational flexibility have been greatly constrained by the 640K conventional memory space invented for the 80% microproces-

sor more than a decade ago. Windows 95, because it imp nts network, storage and other device drivers as 32-bit "virtual" code, finally unshackles IS from the 640K limitation. Install all the protocols you need. They'll work st fine. (And many, includi IPY/KPY and TCP/IP are includ

The DOS/Windows roo so has forced on users a form of udo-multitasking that has

eatly reduced with the threaded. pre-emptive multitasking archi ecture of Windows 85 Rather than seize monolithic control of the entire PC, threaded applie tions can spawn smaller and more manageable tasks to the operating system which in turn can decide which threads need immediate attention. In the tong run, all restdent applications should get the attention they deserve under Win-

Visible changes That's the theory behind Windows 95. and in our testing of beta ver-

sion M7 it seems to work outte well. But what about tangible enhancements? Experienced Windows users will noté an immediate and dra-

matic difference in the appear ance, operation and neability of Windows 95 compared with Windown 3.1

The mass of folders, icons and metimes-bafflingWindows facilities that users tried to surmount with a variety of add-on desktop management programs have been rethought and revamped. Rather than a cluttered desktop. Wind

Windows 95, page 44

OF COURSE WE WON IN THIS COMPETITION. WE INVENTED THE RULES.



Within months of coming to America.

the Noka 449E 15' monitor was named a PC Magazine Editors'

Chaire Which didn't come as a surprise. After all, many of the criteria by which the contestants were judged are standards Nokia established years ago.

1985 World's first flicker-free currents monitor. 1989 World's first cligated monitor 1990 World's first low-radiation (MPR II) monitor

1991: World's first eutomoby low medication (ECO) months. 1993. World's first powersaving (TCO '92) monitor. 1993: World's first on-screen adjustments 1994 Nokia Muligraph" 449E March 15 Editors choice



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1 WINDOWS WORLD OPEN

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Windows World Open is held at WINDOWS WORLD in Atlanta, April 24-27, 1995.

The state of the control of the architect in the No neclear recognic Companies of the age ISG Gangare Windows, Windows World and the Windows

The State of the Companies of the Atlanta of the Windows Win

Apple's System 7.5 trumpeted for ease of use

QuickDraw GX and PowerTalk viewed as downsides of operating system

Early reaction to Apple Computer Inc 's System 7.5 operating system has been decidedly mixed.

Users have been disappointed in 7.5's ballyboord QuickDraw GX graphics and PowerTalk communications features but said the 3-month-old update to System 7.t has beld true to Apple's ballmark of

making computers easier to use Pulls in utilities search mechanisms easending menus and an enhanced help program have significantly reduced the time spent searching drives and directorice and installing programs, users said

They've automated a lot of tasks that you do and made it easier for you to fire nre not how to do them," said Bob Duffy. MIS manager at Pala Alto, Calif-based Cornish & Carey Residential Real Estate I don't have to go into my bard drive anymore because the things I always use of used recently are in my manu. They've made it easy for me taget to where I want

Among the features users praised sere 7.5's "recent documents." "recent applications" and "recent servers." which jet users call up recently used pro grams and routines without hurrowing interdirectories and subdirectories

Less typing, more options Along the same lines, 7.5's tumbling meone give users more task options with fewer keystrokes and less human retall of file names and routines. Users also said they benefited from 7.5's "scriptable

m Scriptable finder

Recent applications and routines readily available . ■ Cascading menus

Help program # High memory overh ■ Oulck Draw GX # PowerTalk

finder" which allows them to an customs and software tacks

"tt's really handy - the way you don't bave to retnember anything - because I invariably forget," noted Boger Bundy, director of computing services at Irvine. Calif-based Taco Bell Corp, Taco Bell is running 7.5 nn about 30 nf its 600 Macintosbes. Most of the 30 are Power Maciatospes purchased with 7.5 already installed, flundy said.

The resounding hurrahs were affect by an equally loud Bronx cheer. "Generally speaking 7.5 has been no problem whatsoever as tong as you stay away from QuickDraw GX and PowerTalk." Bundy said. "Both are memory bogs, and there's them." Many 7.5 users have chosen not to inctall Onick Drew GY or Drown Talk QuickDraw GX marks a technology leap over the earlier QuickDrow by permitting real-time on-

on solve mixing and letter. by-letter lighture and font adjustalso gives greater flexibility in printer selection. PowerTalk enables overs to receive electronic mail bufletin board messages, faxes, voice med and other communication from a single location.

Memory burdens But users noted that QuickDraw GX and PowerTalk safter from high overhead - Apple recommends t6M bytes of memory for

systems loaded with the features. ICW July 181 - and a dearth of applica nuthal take advantage of the features Sustan 75 needed manager Andy Hammond noted that Apple is develope lower-memory versions of the technol ories but declined to say when they will

PowerTalk product manager Vince Hunt disputed user claims that Power-Talk does not have adequate third-party support, noting that it ties into messaur ing products from Microsoft Corp. and WordPerfect, the Novell, Inc. Applies tions Grosp, as well as the CompuServe hulletin hourd. It does, however, still back

a gateway for Lotus Development Corp.'s CC Mail he poted Onick Deep GX users have also reported that the featurentien falls to work correctly because of incompatibilities between its drivers and previously

"They all have to be in syne with on other, and I'm not sure they are," said Duffy, who added that he recently lost page settings during an envelope printing exercise with QuickDraw GX. "If I can't get it to work, t'm not going to ask our freal estate) agenta to use it.

QuickDraw GX product manager Re Fernandez said users can switch out of it on an application-by-application basis. While only a few third-party vendors exploit QutckDraw GX; support will burmon in the next ely months, he elaimed noting that the feature will enable even low-end applications to run sophisticat-

ed colors and fonts. 'We're still not recommending 7.5 internally," said Phülip Corebary, network systems analyst at US West Marketing mources Group in Omaka, a US West Inc. subsidiary, "PowerTulk doesn't buy un anything because the major mess ing vendors aren't doing anything with a And Quick Draw is somewhat problems! ie in a complex graphic environment."

Corchary and other users such as Val

eric Takumoto, a technical staff men at The Aerospace Corp in El Segundo Calif., noted that even without Quick Draw GX and PowerTalk System 7.5 is memory-demanding

Takemento said a trim version of 7.5 she loaded on an Apple IICi uses 3.7M bytes of memory. "That's about a membric above System 7," she said

Duffy said the silver lining to the m ory requirements is that System 7.5 per mits users to turn system extension features un and off for a given session, which energy memory

Lost in the commotion: Product debuts that users may have missed

By Stuart J. Johnston

In the constant din of vendors bawking their wares and the 190,000 or sn attendees shuffling from booth to booth at Comdex/Fall '94 iast month, several smaller but notable systems ancements nearly got lost in the shuffle

IBM showed off its OS/2 for PowerPC, form ly known as the WorkPlace OS for PowerPC with an OS/2 "personality." The company plans to release the first beta this month and a second beta in the first quarter of next year. Final ship-ment will be completed by "midyear," said Wal-Casey, director of marketing at IBM's Personal Software Products division.

Taligent, inc. announced a new name for its Taliengs Applications Environment formerly called TalAE. The set of extensible object-oriented application frameworks is now called CommonPoint, said Joe Gugtielmi, Taligent's chairman and chief executive officer. At the same time, Taligent announced a cer-

tification and branding program for applications developed using CommonPoint. Pro-

			1995*	
Windows**	24.4M	35.1M	43.3M	53.4M
-	-	-	2400	
DOS	16M =	. BuiM.	sM	660,000
-	100	-	101	
05/2	984,000	1.1M	1.214	14M
		-	Carrie -	

grams that pass a comprehensive verification suite test will be allowed to use the logo. Taligent also presented target delivery day

for CommonPoint. "We expect to ship bets feeded to the investors by the end of this year and the final code in the first quarter" of pext year, Gugtielmi said. Version 1.0 of Common-Point is scheduled for release on operating systems from the investors - IBM, Apple Comp er, inc. and Hewlett-Packard Co. - in the third quarter of pext year be added. Those operati

out to 30,000 to 40,000 users

systems will include IBM's QS/2 and AIX. An ple's Mac OS and HP's HP/UX. Meanwhile, Taligent's own operating sys-

tem, cailed TaiOS, "is currently staged for early 1996 [with] the beta in late 1995," Gugielmi said. It will use the same microkernel as IBM's WarkPlace OS. Two other Taligent products.

TaiDE (Development Environment) and Tull'i Builder (User Interface Builder), will go into beta testing "around the beginning of the second quarter." he added. Microsoft Corp. will begin a

third beta release of Windows SG. also referred to as the Preview program, early next year that will m out to as many as 300,000 to 400,000 users, said Brad Silver berg, vice president of the Person al Systems division. The second beta began last month and went

Users can purchase Bota 3 for "around \$30. which is the cost of goods," or the cost to ma facture and ship the beta, one Microsoft official said. The fee will not be applied toward purchase of the final version of Windows 95 when it ships to the first half of 1995, and the Bets 3 code may include a software timer to disable the system when it reaches an expiration date. Street price for Windows 95 will be "under \$100," Silverberg said.

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Windows 95

CONTINUED FROM PAGE 39

95 presents a generic Start button as the point of suiry to a hierarchical menu of applications and documents.

On installation, the mean is antomatically created from existing Windows 3.x. Program Manager files (although this installation function did not work in our beta-test version).

"Shortcuts" — which appear on the desktop as icons — can easily be added to the main desktop or to any other program folder for single-click access to both documents and applications. Short-

cuts can also be embedded in other documents and shared by users through Email or networked applications. IS staff will appreciate the array of enhancements that boister system admiistration and support. For example, the klunky PIF netween has been replaced with property sheets, which provide instant and editable configuration data on applications and system re-

Databases without fear

The horrors of multiple. INI files are vary planted with a new Registry database, which tracks user and system information. The Plag and Play feature of Winter Control of the properties of the properties of the operating system to use various system hardware — seems to handle many of the arcane configuration issues that are versing to users and support that are versing to users and support

The Policy Editor allows custom configuration of individual and groups of machines by systems administrators. Finally, Windows 95 is inherently a Simple

Colonial newspaper to be put on CD-ROM

One small company is bringing history up to date. Accessible Archives in Malvera, Pa., creates hilly searchable CD-ROMs from historical documents, allowing historians to take a breather from lengthy searches through archives. The company is halfway through digitizing the Pennsylvania Gaustic, an

titing the remaptement cuestie, in 16th century newspaper that today exsists as only eight or 10 closely guarded original sets and perhaps 100 microfilm copies. The CD-ROM includes text as well as images such as advertisements.

as images such as advertisements.

The Philadelphia weekly was owned by Ben Franklin for 40 years and was the premier colonial newspaper.

"I think it's a wonderful resource," said Jean Soderlund, professor of history at Lehigh University in Bethlehem, Pa. "There's a wealth of information in

Next month, Accessible Archives will release on CD-ROM a cumulative index of Nites' Register, a 18th century weekly accompany that covered national and foreign news, a spokesman said.

— DO News Service

Network Management Protocol client, so remote monitoring and management is possible.

In short, there is much bare for system administrators that should radically diminish not just support time but also the frustration and hair pulling of tasloring multiple Windows configurations on dozens or thousands of machines. Centralized and logical system support is one of the big gains that any Windows 55 organization will quickly realize.

Any review of Windows 95 is bound to be a mere anapohot of this revamped opcrating system. However, there is one critical set of issues that may go overlooked beneath all the new features and functions: Windows 95, while destined to add new functionality and flexibility to

users' organizations, will also place a burden on them (and IS staff) to learn an entirely new operating system. You'll gain a lot by so doing, but don't let anyone say the transition from Windown 3.1 to Windows 65 will be simple. Bawless or even chesa, You'll be unshackled from the crude and littly legacy of DOS, but you'll have a beek of a lot to learn, a beek of a lot to resupinize and a beek of a lot to rethink about your enduser management functions. Does the adage "na pain, no gain" come to mind? Stock no oe order and assigni.

Ray is a systems consultant based in Restonand

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Desktop Computing

Micrografx, Inc. has announced ABC SpapGraphicu 2.0, graphics software for

According to the Richardson Toyas firm, ABC SnapGraphics 2.0 lets users add diagrams to presentations reports and other documents and integrates with users' existing software.

The product includes automated features to simplify the creation of organization chartu, flowcharts, project timelines and other diagrams. SnapSteps give users step-by-step instructions dur ing the creation process.

ARC SnapGraphics costs \$49. ► Micrograft (214) 234-1769 -

Management Information Technolories, Inc. has announced ConSearch 3.0 for Windows Information retrieval

According to the Commack NV company. ConSearch 3.0 for Windows reads test directly in most original applica formats and recognizes and relates ide-

as in English. French and German. The product understands relation. ships between words and locates and displays specific data for the user, even if the user does not know the exact words extused in the docu

ConSearch 3.0 for Windows costu \$49 Management Information Technologics

(616) 231-1254 Proportional Software has announced

Compression Plus compression software for OS/2 According to the Fort Collins, Colo. firm, Compression Plus lets users control which programs and data files are

wed to compressed storag The product includes a Virtual Disk Sampler, a ready-to-luse comprés drive filled with OS/2 icons, bit maps. backgrounds and utilities.

Compression Plus costs \$179 ► Proportional Software

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com 7612 print

Champion Duplicators, Inc. has rolled out DiskCopier 2000, a disk duplicator. According to the Fremont, Calif., com pany, DiskCopier 2000 formats blank disks, copies the master disk to the hianks and verifies each copied disk.

The product can duplicate as many as 40 disks without operator attendance. DiskCopier 2000 costs \$1,895 Champion Duplicators

Genleem Corp. has announced the Geni-

According to the Chaptilly Va ny the Genicom 7612 provides 600 dot/in resolution with high-resolution contro enhancement and prints 12 pages per minute, included are a 150-sheet multipurpose paper tray and a 500-sheet ad justable paper drawer. Envelopes ac gal sheets are handled without ad ditional options. The printer comes with a high-speed bidirectional parallel port and serial port and provides automatic

port and emulation switching The Genicom 7612 costs \$1.649. ► Genicom

(703) 802-8200

3M Optical Systems has announced the PF50, a notebook privacy filter. According to the Roseville, Minn., com-pany, the PF30 protects confidential in-formation on a notebook from being seen

The filter, which weighs less than : pound, includes an antigiare feature that proves contrast and reduces glare.

The PF30 costs \$119.

> 3M Optical Systems

(612) 736-7646 Wyse Technology, Inc. has announ

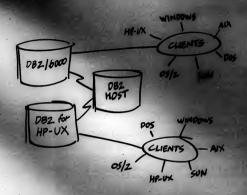
WX-15, a serial-connected X terminal.

According to the San Jose, Calif., co pany, WX-15 features a 14-in, monochrome display and was designed for us ers of character-based terminals who want to take advantage of the graphle in

terface capabilities of an X term In X-compatible mode, the produc nunicates over a standard serial tine with a host containing the serial X server software module. The mode features 800- by 800-pixel resolution.

WX-15 costs \$695. (408) 473-1200





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tion workloads between clients and servers while referential integrity, multilevel concurrency support, forward recovery and online backup ensure high performance and availability. And each DB2 open solution protects your existing investment by allowing you to manage your corporate data

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CLIENT/SE

Clone makers stray from SPARC

Some look for new technology to broaden markets

By Jean S Borman

Sun Microsystems. Inc. casts a mighty tong shadow in the SPARC-compatible marketplace: Sun bas more than 90% of the market built around its SPARC RISC mieroprocessor. But analysts say Sun may nov a heavy price for its clear dominance: The loyalty of some of its SPARC

alone makers is weared as in recent years, lagging SuperSPARC ehip performance has slowly eroded the number of vendors participating in the SPARC-compatible marketplace, al-

though the number of workstations and servers shipped has contioued to rise. Clone makers are still selling a wide variety of SPARC units, from portables to desktops to superservers. But some, ineluding integrix. Inc. and Auspex Systems, fac., have recently announced the substitution of compatible, high-powered HyperSPARC chips from Ross Technologies, Inc., a Puittsu Ltd. subsidiary.

However, Cray Research, Inc.'s super-

servers division will wait for a newer boost from Sun's 64-bit Ultra SDADC abon

chips "is very much a possibility Carl Raidini, vice president of engineer programs manager at the Cray unit in Beaverton, Ore. "We don't go heading at RDt Computer Corp. in Carlol to-head with Sun at all." Khan explained. "We start where they leave off." Cray sells highand CDAPC machines with

In recent weeks, several clone makers have openly said they are scarching for new technology to broaden their market. Adding sopport for other Sun branches out

Calif. a maker of portable SPARC-housed units. 'We are consider! those kinds of options End users of SPARC-cor patible systems may well remain in the Sun market, ana-

lysts said, because users' plications run under Sun's VSolaris 1 v or Solaris 2 v operating systems. There are roughly 9,000 ap-

3.000 for Solaris 2.x. For example, the on Chromiele unen 275 Tatung Science & Technology, Inc. workstations to complement its use of Sun servers for

rial applicatio Cyrix Corp. in Richardson, Texas, user 100 Tating SPARC clones to support engineers' computer-gided design apolica tions under Sun(18 for chin design, "Performance is busically identical and the

price and service are much better," said

next year, said Shahin Khan, marketing Xcellenet eases management with RemoteWare 2.0

Xcellenet, Inc.'s upgrade of its RemoteWare product, Version 2.o, should turn heads at corporations that want to better manage their

Analysts say the Atlanta-based software maker, which combines middleware and distributed application software and calls it "fieldware," currently occaples a unique niebe in the

software world. "They don't have any com petition that I can think of," said Samuel Max an analyst at The Yankee Group in Bos-

May said RemoteWare of fectively operates as a variant of Lotus Development Corp.'s Notes groupware package but for remote users. He said Xcelle

net could be a highly successful company if it figures out how to effectively package and mar-"This is not selling Notes to white-collar prople sitting in tall buildings in Boston, New York

and Los Angeles. This is selling it to people sitting ont in Denny's restaurants and Jiffy Labre," Maysaid.

RemoteWare is targeted at Fortune 1,000 companies. One of Xcellenet's main goals is to give information systems staffs more flexibili-

ty company officials said We wanted to give the central network administrator more ability to do things," said Sa-mi B. Jajeh, manager of market development at

Name gives remote users access to servers for groupusers-like computing Herrs said Westion 2.0 addressed many of

With 2.0, they offered me about five things I

could use," said Dean T. Thompson, retail sys-

Thompson cited object technology, doubling

the number of users per server from 16 to 32,

improved security multiprotocol support and

tems manager at BP Oil, Inc. in Cleveland.

their wants for RemoteWare.

support for X.400.

Version 2.0 has drawn interest from outside

We are fooking at [Xcellenet]," said Davakar Veerlapati, a research analyst at Union Pacific Technologies in St. Louis. With Remote-Ware, a company can set up a predefined call achedule in which a server calls a phone number during the night, "wakes up" an attached notebook and synchro-

nizes files between the two piatforms Vaerlansti said The server then leaves a record for the user to review in the morning, Union Pacific Technologies could also nee this facility to update software programs remotely.

Veerispati said one obtacle for Xcellenet at Union Pacific Technologies is that the company stready naes Notes, which duali-

s some Remote Ware functions. Different configurations of RemoteW be available when the product ships later this oth. A base configuration costs \$302 per usor for a 100-uner site. \$174 per user for a 500uper site and \$131 per user for a 2,000-user site. The highest level costs \$787 per user for 100 us-

ers. \$501 per user for 200 users and \$353 per user for 2,000 users. COMPUTERWORLD DECEMBER 12, 1994 47

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Peter Kastner Aberdeen Group, Inc.

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Justin Harvitz, President, Harvitz Consulting
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tions featured in Lotus SmartSuite.® For a limited time you can get Approach for \$129. Or get the entire SmartSuite upgrade for just \$299."

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thing manually And that's why PC Magazine awarded Lotus Approach its prestigious Editor's Choice award over both Access® and Paradox.®





Syntra eases exporter paper chase

Ex-tra automates order processing, tracking for international business

By Gary H Anthes

Not everyone supported the recent nassame of the General Agreement on Tariffs and Trade, but most experts agree GATT will lower tariffs and increase U.S. ex-

ports by tens of hillions of dollars anou-While that is good news for exporting companies as a whole at could be a bendache for the accounting people in those companies. Reason. As exports increase, so do the volame and complexity

of the paperwork deby Uncle Syntra Ltd. in New York said its software being tame the paper

When tariffs are reduced. ements. ments look for other

ways to control exnosts " said Dano Anthos, co-founder and marketing director at Syntra. "Frankly, documentation is used as a nontariff harrier

NAFTA increases paper shuffle For example, he said, the North Ameriean Free Trade Agreement (NAFTA) lowered tariffs an exports to Mexico but greatly increased the paperwork hurden on exporters by requiring detailed

"country of origin" certificates. DeKalb Genetics Corp. in De Kalb. St. uses Syntra's Ex-tra export management software and will sooo upgrade to

the release that handles NAPTA requiremonts and Donna Schmid senior man none of expect spraces "NAETA has complicated things because now we have to file export certificates "she said "It's also been a challenge because we have

to use different leades! It's another set of numbers and more paperwork." Ex-tra automates export order procossing and tracking involeing shinning documentation, accounts receivable, fioancial reporting and other functions to

US, exports of manufactured goods 5 11713 s 140B $\times 157 B$ s2 HB*

> between \$15,000 and \$350,000, depending an the number of users and modules chosen and runs in a variety of environmonte - most aften on a linky deriver oo a Novell, inc. NetWare LAN, Anthos

DeKalb exports 5'000 metric tons of seeds to some 50 countries each year, and the company uses Ex-tra to reperate export documents, sales and accounts receivable reports and customer invoices. Schmid said She said the software was crafted to handle international

transactions. For example, it automatically translates dollars into the appro prints foreign correspon and handles things not often used in demostic commanage much as bottom of amodic Dokath has used Ev-ten since 1989. Refure we had no database so every-

thing had to be typed in Schmid said. "And it was a big job for me to do sales reports because I bad to track each in-

Worldwide system For ABB Power T&D Co. in

Stamford, Conn., Ex-tra builds bridges to other in-house sys tems used by the company's 27 divisions. For example, it takes orders for electrical equipment from eustomers around the world and sends them by electropic data interchange to the appropriate divisions for man ufacture. Once the order is ready to ship. Ex-tra produces

invoices, packing lists and other paperwork and feeds data back to ABR's accounts recely-

Three years ago, before ABB had Ex-tra, export management was more manual and less flevible according to Muri anne Rees, manager of custom of pervice "Now we just enter the order once, and we can get any kind of report we want, the said "We need to manually type invoices, and the old system did not do nrder acknowl-

Syntra recently struck an agrewith OCR Services, Inc. in Bockville, Md. whereby Syntra offerings will inchule access to OCR Services' exment compliance data. The data is a compilation of federal regulations governing the export of drugs, chemicals, munitions and the like



Sun

CONTINUED PROM PAGE 47 Brian Holeste, systems manager

for an dineoring at Cyrix Prices for Tatang's SPARC 10-equivalent machine are 20% lower. Cyrix also has Sun-compatible servers from Sol-

bourne Computer, Inc., which recently stopped making Clone makers' willumes to more eway from SPARC - at least for some prod-

uct tipes — does not surprise longtime much of a technology lead for too" long before it shared lead time with SPARC resellers.

"Historically, the little guys are the first to feel the tilting of the playing field," said Andrew Allison, a RISC chip analyst in Course Calif

Sun said it tried to level that laying field by creating the Sun SPARC Technology Business last year to shepherd SPARC chips to the market. The move also gave clone makers a head start in ship-

ping Solaris 2.4 this past fall, But it will be increasingly difficult to prevent some SPARC-vendors from

straying from the Sun "Most of the Sun done vendors are looking at other opportunities as well," said Laura Segervall, songer of worksta-

tion research at International Data Corp.'s Mountain View, Calif., offices. "It's a hedgg-your-bet kind of thing."
That is because clone makers

merally ship a small number of SPARC-compatible units and look to the emerging low-end RISC PC market as a way to grow sales dra

Briefs

D&B Software expands services

ot creates three differ-

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Backup, restore gets boost | Users' choice: All-inclusive or

NetFrame app designed for client/server world

By Jalkumar Visyan

Reliable tape backup and restoration -an off-cited concern for users moving critical applications to elient/serv computing platforms - may have just motten faster for users running Newall. inc.'s NetWare on Extended Industry Standard Architecture-based serv

rservez vendor NetFrame Sys tems. Inc. in Miloitas, Calif., recently introduced Release 3.0 of its Data-let tape backup and restoration system software, incorporating support in NetWare 3.12 and 4.02, DOS, Macintosh, OS/2 and

ood primarily for systems bot ing 100 bytes of data and more, the release provides backup performance rates of up to 15G bytes per hour and comes with integrated redundant arrays of inexpensive disks Level 5 sup-

Server capacities and date availability requirements are just exploding. Tradianni file-by-file backup methods clearly era," said Steve Getz, director of Net-Frame's Data Jet product line.

According to Getz, the new DataJet oftware will permit full-volume image backup that provides customers with a high degree of fault tolerance. 'It does provide users [with] a much histor performance tape backup and reproblem," said Para Yale, an analyst at arket recearch firm Dataquest, toc. in

San Jose Calif At the same time, analysts said the kind of high-end backup features offered by Release 3.0 were likely to be required only by a small but growing niche of very high-end meers who have large concen-

trations of critical data on PC servers. lelp make the switch rame said it hopes to position the

new readuct as a tool for network administrators planning to shift from NetWare 3.12 to NetWare 4.0. According to Getz. Datalet will allow administrators to schieve the equivalent of Novell's recommendation to complete two full data backups prior to converting a server to

NetWare 4 0 New features in DataJet Release 8.0 inande the following

· A burst protocol to increase across-thevire backup apoed: · Backup space calculation that estimates the backup space required for the

date selected · A tape drive configuration display that Buts all the configured tape drives. Existing DataJet neers can purchase the software for \$295 for a three-tape configuration \$695 for a four-time configuration and \$996 for an eight-tape con-

Actual pricing for the complete Data-Jet backup and restore product, including bardware, starts at \$14,995 for a three-tape backup configuration and store capability with a high degree of ranges up to \$42,995 for an eight-tape fault tolerance. It's important from the perspective of solving a user's particular

add-on project management

There are two ways to face Microsoft Corp.'s software dominance, and project management software developers Primaunen Souteme Inc and Micro-Frame Technologies, Inc. have each chosen a different path.

"One way is to compete, and one way is to stay one sten shead of the technology curve," said Karen Zevin, an analyst at toternational Data Corp. in Framingham, Mass. Bala Cynwyd, Pa.-based Primayers, a leader to high-end project management software, has chall Microsoft Project's supremary in the

low-end project management software market with Sure/Trak for Windows On the other hand, Micro-Frame in Ontario Calif. has built on top of Project with ProjectServer 4.0. a. elient/server software ev-

Right tool for the lob At the Greenville S.C. office of Fluor Daniel, Inc., an eneinereing/construction rm, more than 100 copie of SureTrak have been in stalled on individual engi-

tension to Project.

neers' PCs, said principal project control specialist Alan Walte. "We have a lot of small projects, and we have a lot of engineers who have to schedule projects and don't want to be burdened with exce capabilities." Waite said. SureTrak has worked out well with the company's overali plannimi done on Primavera's Project Planner and individual projects managed by SureTrait, be added.

Zevin sald Primavera's Sure/Trak pro vides a more structured, rules-based approach to project planning than Project and is an option for someone who expeets to need more regimented project

management down the road. She said Micro-Frame's ProjectServer is the way to go for organizations that use Project and are moving to a client/server architecture.

oen, Inc. has announced Paxeom for NetWare, a Novell, Inc. NetWare Loads

According to the Chelmsford, Mass.,

company, Faxcom for NetWare provides

fax services to users of NetWare 3.x and 4.x. Windows, DOS, Macintosh and Unio

X Window System. It automates inbound routing of received faxes, converts faxes

to text, manages private and public fax one books and interfaces to scanner for faxing hard copy

ble Module-based fax server.

Prices start at \$1,495

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For users who require full tracking throughout the life cycle of a project SureTrak provides a Progress Spotlight feature that highlights all tasks that should be completed to a time frame the

Joel Koppelman, president of Prima ra, said with features such as Progress Spotlight, SureTrak targets part-time project planners who want more than a bar charting tool for initial planning but do not require a high-end project man-agement software package.

ity directly to Project, especially with the

Build it on top
Micro-Frame decided to add functional

large number of corporations that have standardized on the software. According to Micro Frame President John O'Neill. ProjectServer ex tends Project's manage ment capabilities to a large number of projects by pre viding central consolidation

of Project files. Enterey Services Inc. a ntility in New Orleans, La., needed to standardize planningfor more than 120 information systems projects.

After a poot test, the firm chose a combi nation of Project and ProjectServer. According to Sharon Ledet, information echnologies senior consultant of IS uning, the company now enters proj ect details into Microsoft Project, while Micro-Frame's ProjectServer consoli dates the files - previously scattered among various servers and PCs - into a central database "Now we can look in one place and find all the projects," she

ProjectServer also tracks action eras, checks for open tasks, provides multiproject reporting and is capable of sing thousands of projects Ledet said she has not noticed any re-

duction in the product's response time when additional projects have been added to ProjectServer.

Mega Drive Systems, Inc. has an-nounced the MR/20, a redundant arrays of inexpensive disks (RAID) system for Macintosh Quadras and Power Macin

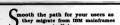
According to the Beverly Hills, Calif.

empany, the MR/20 provides 84G bytes of on-line RAID storage. The product was designed for use with video servers and high-end graphics servers connected to Macintosh pint-

Features incinde 20 fully loaded, bot swappable, 4.2G-byte drives, support for RAID Levels 0.3 and 5 and a SCSI-2 inter-

The MR/20 costs \$20,200

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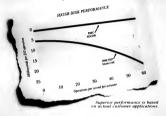
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Analysts see slow NetWare move

Novell cites 'stale and bad information' about Version 4.1

By William Brandel and Laury DiDio

As Novell. Inc. tries to put its spin on the NetWare 4.t. anneh, market analysts are formulating their own notnecessarily-auspicious scenario regarding the forth-Opinions in the analyst community on NetWare 4.t's

prospects for success range from downbent to enthusi-One of the more evebrow-raising reports is from Com-

nuter Intelligence InfoCorp in La Jolla, Calif. Its report. released but month was called "Novell's Strategy for NetWare 4.x Appears DOA

1.AN service director Stan Schatt, the report's author. said that while NetWare 4.x is very attractive for customers installing new LANs, Novell's strategy "is less then adequate to move the INetWare 3 x1 propie to Net-Wenn 4 +

Lee Dovie an analyst at international Data Corp. (IDC) in Framingham, Mass., in his recent report "Novell: Directions for NetWare 4.x and Beyond," said seceptance for NetWare 4.0, released in early 1983, has been "decidedly lukewarm

According to IDC statistics, 5t,000 licenses of Net-Were 4 v were installed in 1963. That figure bested ofCorp. but represents only 15% of the in-stalled base of NetWare 3.x users, Doyle cald Honorous IIV foreseets the number of Ware Ax licenses will rise to between 70 000 and 75,000 this year.

"The follow-on version 4.1 is simed at penetrating the mainstream Novell cus-tomer. We anticipate that NetWare 4.x will ramp up more rapidly during 1965 after Novell releases 4.1." Dovie said in the report.

taying the course Network administrators at small and medium-size organizations agreed with Schatt that there is no compelling reason

for them to migrate to NetWare 4.x right eway Those same poers also said that while their companies would likely upgrade from Net-Ware 3.x, they are also leaving the door open for Micro and 's Windows NT Server

We've been running 3.t for two years, and it works fine and suits our needs. We'll probably upgrade to Net-Ware 4.1 when there's time, sometime in 1995," said Rob Bever supervisor of network services at South

ewspapers in Toronto. But Sever said Southam Newspapers is lering NT Server

then, but not by much.

"We're taking a very preliminary look at NT Server, and there's always a possibility pization," Bever said.

Mark Herder, manager of data con elections of Dartmouth Hitchcock Medical Center in Lebanon, N.H., noted that while hannelers Net Ware to NT Server the choice

"I don't drive the Instwork operating system) or applications bus. I'm just a pas senger." Herder said. "If an executive in a particular department absolutely demanded NT Server, we would have to install and support it.

Schott's report estimated that only \$ 800 LAN sites are evaluating NetWare 4.t this year Schott said that number cutse from polls conduct

ed earlier this year in which sites were queried about their evaluation intentions for the next 12 months. Al that time, NetWare 4.t was in its alpha rele said the number might have increased slightly since

NetWare, page 60

SMS impresses despite resource needs

M As Microsoft Corp. moves aggressively onto the corporate systems manage-ment playing field with a new type of football called Systems Management rver (SMS), users on many corporate ims are huddling to determine nether they want to play Microsoft's

"SMS looks very promising and feature-rich, but we're not in a hurry to jump to any systems management platform sald Tony Defeciani, manager of micro systems and communications for the New York State Assembly in Albany Although be is currently evaluating SMS. We will take a step back, give it time to mature and see where the industry is go-

ing," be said. Another user was more bullish. "It's an incredible program - somewhat problematic at this point, not quite coked yet, but awesome," said Adam Laren, a segior LAN engineer at Micro Research Industries in Alexandria, Va With SMS fully configured and acting as an integral part of Microsoft's BackOffice applications suite, Lynn said, "every Microsoft, LAN Manager, OS/2 and Novell workstation in this building, connected by routers, frame relay or whatever, belongs to me.

SMS' software management capabili ties are particularly valuable, Lynn said.

+ Gives complete overview of client/server ner rates with Microsoft's BackOffice softe uses confusion as to here DMS and Micro

use they enable him to control softwere inventory the way corporate man-We're all afraid of the Software Pub-

lishers Association, and I can tell you exactly what software we have and that we are completely legal," he said. Applica-tions on a list of forbidden software "can automatically disappear off everybody's machines," he added

One downside of SMS, Lynn observed, is that 'on the desktop, it's a bog that needs 32M bytes of RAM and 500M bytes of disk [If you have] less than that ... you can't

But Defeciani was unconcerned. "On a computer used for management purposes, I don't think the hardware re-

even load it and use it."

hing that can give you this much cape bility are much of an lame "he said. For users undaunt-

ed by SMS's appetite for corner resources The success of SMS will depend on the willingness of cus omers to deploy Windows NT serv ers." said Dave Pass

more, a principal Inc. in Herndon, Va. "NT is certainly picking up momentum, but it still has a long way to go to come close to the acceptance

SMS is attractive for Microsoft shops. But when it comes to server deployment Passmore said, "many organizations will be more interested in desktop utilities that run either as Unix applications" or Novell, Inc. NetWare Londable Modules. Still, SMS is "moving in the right direction in its ability to dig deeper at the application level as well as the network and

systems levels," said Charles Bobbi director of data communications re search at Aberdeen Group in Boston.
One neer hinted at a future SMS caps lity that will help companies monitor tored simultaneously, with SMS "you can see if employees are pushing the right buttons when they are supposed to," said Tim Muliceburg, director of information technology at MCI Communication Corp.'s consumer division in Austin, Tex-

as. "SMS allows you to remotely log in to somebody else's PC, watch their key strokes and then take control and make changes if necessary," he said. However the remote-control capability is "not in oduction yet," he said Lynn said that while remote-control

features can be valuable, "I prefer to go to users and belp them personally as opposed to taking over their machines remotely, which is impersonal and can be

Proprietary option Another issue, Passmore said, is that al-

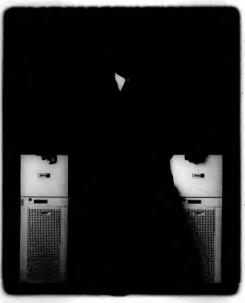
though SMS supports the Desktop Man-agement interface (DMI) for remotely managing LAN-attached PCs, it can also use a similar but proprietary Micro soft method for tracking desktop re-

"There is a lot of confusion abou rhether DMI will be needed for Windows

95 users," he noted Machines running [Windows 95] don't appear on my sereen, and those us

ers escape my scrutiny," Lynn said. "Fra not sure what Microsoft will do about

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By Stephen P. Klett Jr.

UB Networks, Inc. and Networth, Inc. this week will roll out boxes aimed at providing low-cost relief for vidth-strapped net

San Jose, Calif.-based UB Networks will take the arrana off a 12-nort Ethernet LAN switch with a 1.2G bit/sec. backplane and optional Fiber Distributed Da ta interface (FDDI). Asynchronous Transfer Mode (ATM) and 100M bit/sec. Ethernet uplinks for back-

Meanwhile, Irving, Texas-based Networth will unveil an eight-port, 100M bit/sec. Ethernet hub that will cost \$1,795, or \$244 per unmanaged port. The Micro t00 is aimed at segmenting groups of "power users" or providing high-speed connectivity to server farms, any officials said. Grand Junction Networks Inc. is the only other vendor

	Quick connec	ts
Hoors	are gatting more it LAS approdu opti	sigh-speed less
-	Mi Briston	-
Product	GeoRin/E	Micro 100
Category	Switching hub	Repeater
Medium	soBase-T	scoBase-TX
Port density	12	8 (unmanaged)
Price	Scoot	54,795

shipping a 100M bit/sec

At \$500 per port, the store-and-forward GeoRim switch was designed to extend the performance of ex-isting habs without requiring "forkith" upgrades. For example, when UB Networks ships an ATM interface for GooRim in the second quarter of next year, users can position the box as a feeder device into their ex-

isting high-end hube to aggregate Ethernet traffic on-to an ATM backbone, according to Tyrone Pike, senior vice president and general manager of the network products division. "GeoRim can make any vendor's hah ATM-ready," be said.

Pike said UR Networks will deliver FDDI for GeoRim carly in the first quarter of next year, followed by a 1006ase-T interface and then an ATM interface in the

second quarter. The firm will also add support for Cis-co Systems, Inc. routing protocols in the third quarter. oRim's pricing impressed analysts. A \$500 list is a very aggressive price that is below

market average — typically, segment-type switches run \$500 to \$800 on the street," said Tam Dell'Oro, an analyst at Dataquest, Inc. in San Jose.

While the price is nice, for beta site Air Products. Inc. in Trextertown, Pa., GeoRim's main boon is more adwidth, according to Virgil Palmer, manager of

engineering research, telecommunications services. You're always in a pinch for bandwidth, and you can never satisfy your users, but this should help. Detroor cold Air Products is upgrading its commis backbone to FDDI and is testing GooRim as an uplink to give multiple IP networks high-speed performanner." he said. "We also believe [GeoRim] will be a

stepping stone to ATM." If Air Products continues to one the same levels of performance, Patmer said the company may deploy as many or 40 GeoRum switch. es in the next year or so. 'We've had a oeed [for] very high-speed routing and bnet canabilities and uptil now, there wereo't any products available to do

Moonwhile in addition to the Micro t00. Networth plans to deliver the following t00M bit/sec. Ethernet roducts next year:

Miero t00 versions for its FirstStack stackable but line, Second quarter. • t0/100 PowerPipes II switch with six t0Base-T ports

and one 100Base-TX port. Third quarter · SwiftNiC to't00 XT/AT bus, Extended Industry Standard Architecture and Peripheral Component Interconnect adapters. Third quarter.

Beta site Dr Pepper Bottling Co. of Texas plans to use the Micro t00 bnb to provide 100M bit/sec. comnections to its desktops to bandle the bandwidth needs of a shift from mainframe to client/server com-

"We're going to give the users as much power and data capabilities to the desktop as possible. And to pull all of this data back and forth, we will need bigger pipes," said Chris Rodriguez, MIS manager at the soft drink distributor in Irving, Texas, "We have a big demand now for 100M bit/sec. technology, which will only grow during the oext year or so." Dr Pepper plans to roll out as many as 80 of the Net

worth bube pext year, Rodriguez said.

Speedy LAN upgrades due this week | Partnership targets mixed-vendor nets

Ry Steve Moore

Aching from a bellyful of disparate network and system management technologies, users hanker for integrated products that are easier to stomach. Network General Corp. and Aim Technology, Inc. last week said they will respond to the need with plans to jointly create a new recipe for integrated, end-to-end, client/server management.

Users are asking for specific capabilities that Network General and Aim say will emerge from their partnership. 'I want some type of export system that will give me more information on client/server problems and suggest poten tial solutions," said Norman Teinowitz, network adminis-trator at Timberline Software Corp., a construction indus

try software provider in Beaverton, Ore. The biggest thing we'd like to see is a way to constantimonitor our network and collect long-term statistics rather than suspenots," said Robert Karls, a wide-area network engineer at Burlington Northern Railroad in St. Paul, Minn.

The two vendors said they think they have the answer. "Net-work General looks at traffic on the wire and tells you what's wrong and [Aim's] SharpShooter looks inside the server and desktop client and tells you what's going on there," said Network General Chief Executive Officer Les

SharpShooter already recommends solutions to clicate server network problems and supports continuous perfor-mance menitoring, but it is still unclear how those capabilities will be extended as a result of Aim's partnership with

"Aim has attractive technology for capturing inform on the systems side, and it will be very valuable to neers if it is tightly coupled with Network General's products, said Charies Robbins, director of data communications research

at Aberdeen Group in Boston. Network General and Aim declined to provide details on bowtheir products will be integrated.

John Morency, a principal consultant at Strategic Net-works Committing, Inc. in Rockland, Mass., cautioned that even after the two companies have completed the integra-tion, one organizations will have a hard time finding staff members who understand enough about both network and systems management to derive the maximum benefit from such an effort

NetWare

CONTINUED FROM PAGE 57

"Boy, do they have stale and bad information," said Jim Greene, NetWare 4.1 product line manager at Novell. He said the CI InfoCorp report used essentially the same ormation Novell had t8 months ago. Greene would not give exact numbers but said fulfillment orders for NetWare 4.t are now appaching six figures.

No big deal Schatt attributes the alleged lag in

NetWare 4.x migration to the fact that neither Novell nor third-party software vendors have yet produced "integrated applications" to the 4.x pistform.

"The smartest thing Novell could do is take all the 4.x features, minus NetWare Directory Services, and release an optimized 3.2 member of the Instance operating system]," Schatt said.

This strategy could appeal to us-ers such as Herder, who said be has delayed migration to NetWare 4.1 "because currently there's no real technical need." We don't need directory ser-

vices or a single log-on since we're not a buge Novell shop. So a lot of the advantages [in NetWare 4.1] aren't a big deal for us," Herder Eventually, Herder said, Dart-

outh Hitchcock will deploy Net-Ware 4.1 as a departmental server. but for the foreseeable future, my smaller NotWare corner can occ. tinne running 3.tt as long as I don't have to add a lot of disk ca-

Trying out migration aid (the initially brisk demand for Preferre Systems, Inc.'s DS Standard migration

tool for Novell's NetWare 4.x is any indication, mainstream users are at least testing the new platform even if they do not plan to install it in the short term.

DE Standard is a Windows-based tool that as been shipping since November. It provides network managers with a shorter and canier server configuration from NetWare 3xto4x

The Windows-based utility gives the net work manager a split-screen view to fir and convert NetWare 3 x binderies into ob-jects that will reside on the NetWare Directory Services tree.

Jack Serfass, president and founder of Preferred Systems in West Haven, Conn. said the company has already closed deals

with three Novell Master Licensing Ac-"Normally, sales to large customers take

ree to six months. Our two main dom tributors, GBC/Vitek and Distrib

distributions, GBC/Vinks and Distribution, Imax, and a two-welc order backing for DS Standard, "Serfass said.

Novel-up-orderly brought 100,000 copies of DS Standard, but neither Preferred Systems one Newell washed confirm the number.

Novel will distribute five free products and copies of DS Standard to each of its Master and copies of DS Standard to each of its Master and copies of DS Standard to each of its Master are received, authorized administration and nervice contiers and Certified New Ware Instructors.

Will such set on our receiver, such control of the control of the Certified New Ware Instructors. each get one free copy, he adde

Imagine a data network where there's no crosstalk, no lost bits, no signal loss, and the help desk has been turned into the coffee station.



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of cara reliability Ar d bock selection is selected experiments of the recompatible are often period by experiments of the object to see the constraints of the const

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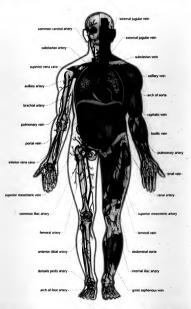
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Notabook

The underlying theme of the E-Mail World conference in Boston this month was that measuring—no longer just electronic mail—in growing by leaps and bounds. It seems companies can't come up with upgrades or announce strategic alliances fast enough. And every jone is talking about some sort of connectivity to the internal.

MAIL WORLD

Unipaim Group in Cambridge, England, amounced Version 2.5 of its Mail-it internet E-mail product. The product offers rules and filtering as core features. Unipaim unweited Solo, an internet package that offers server access, front-end internet connectivity and internet tools.

ATAT Global Information Solutions and issore in Los Angière announced ATAT Enterprise Messaging, which information at ATAT Subserprise Messaging, which information at ATAT is directory services and third-party messaging products, such as Lotas (*C.Mail, Microsoft's Mail and Simple Mail Transfer Protocot-based mail. ATAT OIS is offering this as an electronic data interchains (ED) services.

WorldTalk Corp. in Los Gatos, Calif., unveiled the WorldTalk 400 Directory Service Unit for Hewlett-Packard's Open-

Brier

Switch software updated Bay Networks, Inc. in Santa Clera, Calff., has enhanced its Data Link Switching software to support the Internet Engineering Tas

standard for transporting native SNA data over frame-relay notworks. ATM softwared licensed

Systems, Inc.'s Asynchronous Transfer Mode management so ware, called PereThought, for in clusion in its PowerHob hub fan

HP develops

new Intelligent Network developor's program, an extension of the existing PA-RISC developer a program, almod at telecommunications companies that design value added services to run on HP's RP 9000 Unix servers. Mail. This service allows OpenMail users to access directories from major LANbased messaging systems such as Microsoft's Mail, Lotus' CC:Mail and Novell's GrounWise.

CE Software in Des Moines, lows, announced that its calendaring and scheduling product, Network Schedulez, will now support OpenMail.

Howlett-Packard outlined its strategic

direction, which calls for a mainframeclass information infrastructure. This will provide a common directory, measage store, security and EDI services across the enterprise.

Several messaging companies piedged support for HP's OpenMail. Link-Age Software, Inc. in Boston announced the availability of Link-Age Directory Exchange for OpenMail. This product, in conjunction with the Link-Age Directory Exchange Manager provides directory Exchange Manager provides directory.

synchronization between OpenMail and IBM host-based systems.

To help users make sense of all the happenings in the electronic mess-signing industry. Creative Networks in Pako Alto, Calif., Isuanched a CD-ROM title on the industry called "The E-Mail and Group-Ware Industry CD-ROM." It provides a sampling of software that users can consider when trying to set up a messaging rostem. — Storned Mohran.

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Hughes LAN Systems, Inc. has anced the Hughes 20/20 Enterprise Hub Manager for Windows 2.1, a PCbased octwork management system. According to the Mountain View Calif company, the Hughes 20/20 Enterprise Hub Manager for Windows 2.1 incorporates WinSNMP and Windows Sockets

Feetures include graphical m ment of the enterprise hub, an auto learn function for but discovery and tools for configuration, performance and fault management. Hewlett-Packard Co.'s OpenView for Windows 7.2 or Workgroup

Node Manager is required.
The Hughes 20/20 Enterprise Hub Manager for Windows 2.1 costs \$1.200. ► Hughes LAN Sustems (415) 986-7300 tion only: the TraceTool Translator mod-

Pine Mountain Group, Inc. has an-nounced TraceTool, a protocol analyzer trace-file librarian and format conversion utility.

According to the Groveland, Calif. company, TraceTool lets overs of Ether net and Token Ring protocol analyzers convert trace files back and forth among 14 protocol analyzer file formats. The TraceTool Librarian module pro vides automation and protocol informa Prices range from \$295 to \$795. Pine Mountain Group (200) 952-6247

Motorola, Inc. has announced the ISDN Basic Rate Interface module According to the Schaumburg, Ill., company the ISDN Basic Rate Interface

module supports two switched 64K bit/sec. channels, which can be combined to provide 128K bit/sec. throughput. A 16K bit/sec. packet-switched che nel for access to X 25 nubble data net works is included. And a bandwidth-on demand feature brings added band width through an Integrated Services

Digital Network (ISDN) connection when needed and relinquishes it when the sourions and or the primary link is

Prices start at \$945 h Motomia

(708) 576-5000

Hewlett-Packard Co. has annot the HP AdvenceStack 10Reso/T Hob St.

an eight-port Ethernet hob. pany, the HP AdvanceStack 10BaseT Hub 8U provides users with an upgrade path to Simple Network Management

The product features eight ports with RJ-45 connectors and one recessed transceiver slot for attaching optional fiber, unshielded twisted-pair cable or a

coaxial transceiver module to a network The HP AdvanceStack 10Base-T Hull GTT monte 6900

► Hesolett-Packard (415) 857, 1501

> Funk Software, Inc. has announced WanderLink, remote-access software. According to the Cambridge, Mass., company. WanderLink lets remote PC us-ers dial in over standard lines to a Novell.

Inc. NetWare network. Security features include NodeID, data encryption and domain filtering. The product provides software compression and lets users become a code on a network with access to file servers, electronic mail and printers. Users can also take over and operate any PC oo the LAN Prices range from \$295 to \$1,695, de-

pending oo the number of ports. Penk Software (617) 497-6339

Officers USA, Inc. has announced the Olicom PCI adapter, a Token Ring Peripher-al Component Interface (PCI) adapter.

According to the Plano, Texas, firm, the Olicom PCI adapter can achieve data transfer rates of ap to 133M byte/sec. and was designed for networks using multimedia applications.

The adapter provides plug-and-play

performance for servers and workstations at either 4M or 16M bit/sec. and fontures a Flash Remote Program Load otil-ity that lets diskless workstations boot directly from the server.

The Olicom PCI adapter costs \$550. Olicom USA

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Microsoft

NETWORK USERS. THE VOTE IS IN.

IDC Jan-June 1994 Server Network Operating Systems Node Shipments* Novell: 72% / Buryan: 7% / Microsoft: 7% / IBM: 7% / DEC: 3% / Other: 4%

Quick, who has a next generation network that's rock solid today?

(Hint: it's not IBM or Microsoft.)

verybody boasts about what their network opersing sperms coald bosons. But alls, a they are, is cheep. So meated of pibbering about Intelligent and the comment of the comment of the facts. Becaming the cost is networked to sold we encompases more than just like and print. Number two, is that has like it and aprint are just about all IBM and Microsoft can offer right row. (And even thou search on both Willer and about While lake had underly to the clinchest there's only one network that's complex, powers and most jour sown adriatal NetWeep.

> "ALMOST" DOESN'T COUNT IN NETWORKING.

(SORRY IBM & MICROSOFT)

What the other guys want you to buy is little more than a promise to provide a full service network operating system somewhere down the root (the high-sech version of 'the check is in the moil'). Or maybe they'd like to point you to a third purty vendor. But that's not enough to much network you need tudors you much can be therefore the more than the check of the check of the check of the to much network you need tudors you need to the So who with a mough that IDM and Abrasant of the main fit and print review and larke fit will be consented under such growth and the contract of the contract

555 DAYS UP, 0 DAYS DOWN: ONLY NETWARE 4 IS A PROVEN PRODUCT TODAY.

NetWare 4 doesn't just talk about great services, it actually delivers them. Now. And there's nothing like months of solid performance and happy users to prove it. Folks tell us NetWare 4 is a product they can count on today as well as tomorrow. Others report that it has

given them stability and performance and has proven itself in business critical applications. But the comment we hear most is that, quite simply, NetWare 4 is doing everything they need it to do. And that's good enough for us.

WHAT WE'VE GOT THAT THEY DON'T. THE 7 SERVICES EXPLAINED.

The reason our users are so happy is that we offer them the 7 services they need to hook up with people and information anytime, anywhere. The other guys can only give you 2 of those services right now. The chart to the right shows you who offers what. Here's the scoop on what the 7 services can do for you.

We'll start with the directory service.

In a nutshell, it means no more looking for data in all the wrong places. NetWare 4's

directory service keeps track of all network users, servers, and resources. Even on large internetworks that use wide area network links. And because it offen centralized administration and management of an entire distributed network, you simply log in to the network once to get the info you need the moment you need it.



a PC WEEK 11/14/74 National 3 D was used to measure average foreign. With results like those, at an wonder PC WEEK calls NotWare

Built-in messaging lets you use most of the popular groupware packages such as E-mail, calendaring and others. And because it uses the same directory as the network operating system, you're blessed with a single-point-of-administration that saves you time and money.

Multiprotocol routing with NetWare gives you software-based routing (no new hassles, no new hassleware) for connecting your network with the rest of the world. That way, you get the info you need anytime, anywhere, and you can collaborate

with anyone, anywhere.

Network management with NetWare 4 lets you manage your entire network from a single-point-of-administration. And our graphical MS Window's

NEXT GENERATION NETWORK SERVICES. READY OF NOT?

Services		IBM (AN Server 4.8
1 Directory	No	No
2 Integrated Messaging	No	No
3 Multiprotocol Routing	No	No
4 Network Management	Limited	Limited
5 Security	(India)	United
6 File		
7 Print		Yes

management tools reduce repetitive, multi-step rasks to a simple click of a mouse.

Security with NetWare 4 allows administrators to control access to sensitive information within a distributed environment. In fact, it was designed to meet the National Computer Security Center's Class CE Network Security criteria.

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easy and risk-free. On top of having the same basic architecture we've always had, NetWare 4 also features built-in migration tools so you can upgrade now. Backward compatibility to NetWare 3 meiers that applications written for NetWare 3.

> run on NetWare 4 And because you can manage NetWare 3 from a NetWare 4 sever you can transition at your own pace. Installation is more basile-free thanks to NetWare 4% simple install option. Even administration is a breeze because NetWare 4 lets you make all those routine, repetitive tasks in one installing.

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Richard Finkelstein

When OLAP does not relate



Ten years ago, E. F. Codd opened a Pandora's box when he presented the radical view that relational databases may be more an propriate than the thenpopular hierarchical and network databases Asimi-

lar debate is now developing around on-line naalytical processing (OLAP). Some say relation al databases can satisfactorily support OLAP. hut I am among those who say they cannot.

Cold the father of mintional technology erafted the term OLAP, which refers to a class of applications that allow analysts to interacthely examine and manipulate large amounts of consolidated and detailed data from many perspectives, OLAP applications let analysts drill down into data, pivot perspectives, perform trend analysis and time comparisons and

statistically analyze relationships among pumerous pieces of interrelated data. There is a growing consensus that multidi-

mensional databases (MDD), which store data as cubes within cubes as opposed to iwo-di-Finkelstein, eage 72

MasPar, NCube carve out divergent parallel paths

a Following the strong doses of frontier justice handed ou to some of massively parallel processing's (MPP) pio neers this year, two of the smaller survivors are strikin out along different trails toward the commercial market that could promise confineed safe passage.

MasPar Computer Corp. is pursuing a niche strategy for large-scale decision-support applications involving more than 100G bytes of data. The Sunnyvale. Calif., company will use a relational database introduced at last week's DB/Expo '94 specifically for its MP2 systems, and MasPar averatives said they have no plans to go after transaction processing

On the other hand, NCube wants to use its recently introduced NCube 3 machine and its conne

tions to database powerhouse Oracle Corp. as well as Am dahl Corp. and other his companies to make a name for itself first in mainstream decision support and eventually in

Chris Marino, director of product marketing at NCube in Poster City, Calif. "But hopefully the deals that we've signed will help as MasPar and NCube each had annual sales of about \$20 million last year But analysts noted how being owned by

"We're very small and could get squished like an ant if Is larger vender | decides to have a fight with us." con

Group, Inc., a consulting firm in Minneapolis, "When one is no Dy funded by a billionning it's a benefit NCube can also get sround its lack of name recognition by turn ed to be install

each other last sum

4,250 MPS 20G bytes ssM byte/sec. \$630,000

easief for NCube to avoid the financial wolves that forced

Thinking Machines Corp. and Kendall Square Research Corp. out of the MPP hardware business within a month of

"MasParhas had to ecole back its vision, but I think NCube is scaling its un." said Gary Smaby, president of The Smab

> ing to both Oracic, which can point customers to the MPP ven dor, and Amdahl, which is market ing a bundled NCube Oracle data have server to its mainfriend accounts. MasPar is more on its own these days after an earli marketing deal with Digital Equipment Corp. "pretty much would down due to Digital's financial problems, Smaby said.

Edging its way in

Even with Digital's involvement, MasPar had a tough time persuading one of its first decision-support customers to sign on the dotted line despite strong benchmark results against an existing mainframe. There were some doubters because of MasPar not being a household name," said Bruce Tyshynski, MPP project adviser at the British Columbia Ministry of Bealth in Vancouver.

The ministry eventually did huy an MP2 to handle 40G

Legent client/server link targets staffing costs

By Steve Moore

Continuing its quest to extend mainframe systems management capabilities into the client/server world. Legent Corp. recently unveiled an integrated event scheduling package and ported its Prevail/XP-Automation Point systems manneement product to Hewlett-Packard

Legent's move was designed to reduce staff costs by belping users integrate and ptralize the management of mainame and elient/server environments The amount of staff time we save will

be measured by how much automation the Legent products will provide," said Peter Falzarano, an automation engineer at the Medical Center of Delaware in Newcastle, Det. While Legent's move into elient/server management is "a match made in heaven for us, it's a new world for them. We don't know yet how much time and personnel tt will take to age the wide range of client/server and mainframe applications we need to get under control," be said.

With Legent's new event scheduling pplication, called Prevail/XPJobtrac Remote, running on an IBM RS/6000, "it's very prodoctive to have the ability to schedule MVS and AIX events from one proriestation " said Tom Miller an operations development consultant at American Greetings Corp. in Cleveland. Job trac Remote musics drustic differences in AIX and MVS systems, Miller said, letting him know immediately when a problem occurs in either environment.

Legent is continuing to deliver on its promise to make the Prevail products cross-platform, and users will see more Legent products coming out that support multiple platforms," said Paul Mason, resource manager for enterprise systems agement at international Data Corp. in Framingham, Mass.

Prevail/XP Automation Point, which reviously ran on OS/2 and now runs on HP/UX, typically is used in conjunction with Legent's maintrame-based PreVM. While users do not have to have a mainframe to use Legent's Prevail prod-gent's operations management busine ucts, Mason noted Legent will be most et's on deck

successful in compa nies with centralized information technol-NEV PRODUZONO "In companies that ic model, the culture tends to reject the

centralized nach," Mason said. He said another key mestion is whether users will prefer sys duct suites such as those from Com-

puter Associates In in a framework like Legent's."

nology) neers well, and now we are get-

valUXP Antomation running on MVS or ting to know departmental users," said Sezanne Nicastro, vice president of Le-

unit. Ali hough central ogy groups have lost power in the past five years, she noted

asking them to sur port enterprisewide ports on 3270 terby taking on cli ent/servor Pricing for Pre

wall/YB.Automation point for HP/UX which will be available in early 1995, is based on the number and size of cut

ternational, Inc. and Boole & Babbage, tions and devices to be managed. Pre Inc. or will "build their own [suites] with-vall/XP Jobirac Remote includes a li cense fee of \$41,200 for the -bu Prevail/XP Jobtrac product, plus \$1,000 In Database Technology, Mission-Critical Has Been Mission Impossible.

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CONTINUED PROMPACE OF

sional tables, are important for implementing OLAP applications. Some an will be adequate at some future time --OI AD

However Delieve the base data must be organized in MDDs to achieve optimal sopport for OLAP applications. MDDs were designed to support OLAP, just as

RDBMSs were designed to support on-line transaction processing (OLTP). in many ways, MDDs are a natural database server extension of the spre sheet model. MDDs come equipped with an extensive set of huilt-in functions to support common OLAP operations such as consolidation, drill-down and time analysis operations. MDDs perform right in the server — complex, cross-di-mensional calculations that are as esial to OLAP applications as stored procedures and trimers are to DLTP ap-

o much raw data

Without this capability, the complex op-crations would have to be performed in staide front-end applications, several of which currently try to transform raw relational data into a multidimensional form for each user query. The problem with this approach is that large amounts of raw data most be continually transferred from the RDBMS to the front-end application. Transferring that raw data saturates the network and overloads the front-end application, which is typically sitting on a workstation.

An alternative is to put the OLAP frontestion on another server. Functionally, it acts like an MDD, but instead of storing the base data in a multidimen-sional form, it uses back-end relational data to store raw data.

This approach off-loads work from the workstation but does not address the network-overload problem. Performance is substantially impacted because the front-end application needs to constant-by access RDBMS data and then dynamically transform it into a multidimension-

From talking to business analysts, I have learned that MDDs are easier to use than RDBMSs. This is not surprising beuse denktop spreadsheets are far eusier for end overs to understand than desktop RDBMSs. One of the primary blems with RDBMSs is that it is case for a business analyst to generate a SQL ery that returns incorrect results unbeknownst to the analyst. Incorrect results are often a manifestation of incorreetly specified database joins.

meries and correlated queries. Because an MDD is constructed as a single, multidimensional object, there is no notion of joins and subqueries. It is therefore a more natural form for users

and less proce to such errors. Several issues have to be addr within the MDD community. Each MDD as its own proprietary API, which takes it difficult to build tools that op

ate across different types of MDDs. Periodically refreshing large ame

of MDD data can become an operational issue. Extract and load programs might have to be run over a weekend or ooce a ooth. It would be better to have the MDD database updated more frequently and with less manual intervection. MDD databases typically do oot store that needs to look at the original records, he must go to the original rela

tional database source. MDD vendors have appropried their intention to build direct links from the MDD data to relational data. However, these facilities are not yet available

The substantial goodwill the MDDs have built in the customer base leads me to believe that MDDs will grow quickly. Even those who believe that RDR ultimately compete against MDDs. are forced to concede that this will oot happen for several years. For now, there

is a good to better support OLAP

MDDs are here today and provide a substantial benefit with minimal cost. They do an excellent job of complement

ing RDBMS technology and are worth a

Eleboloteia is revealed at Performance Computing Inc., a Chicago consultancy specializing in client/server technology. He can be reached by CompuServe at 72240,5536.

that introduced Assets are registered technicals and DR29. CICS and CICS DS2 are trademarks of interestors. Comparation, UNIX is a registered trademark of UNIX Systems Laboratories. 9(1994-994 Cyru. As rights reserved.

MasPar

CONTRATED FROM PAGE 69

bytes of data stored in flat files. But John Harte, MasPar's president and CEO acknowledged that the compa ny's new Decision Series database en gines will have to outperform bigger yendoes such as ATAT Global Information by a wide margin to give customers the incentive to take a risk on a relative un-Ironwo.

Harte said his soul is to be at least 10 times faster than the competition with the Decision Series, which bundles MP2 hardware with the Decision DB datab developed for MasPar by a software firm in Indiana, MasPar bones to sell sever Decision Series muchines next year and push its annual revenue from the \$20 million mark to about \$30 million, he added. tions and Tandem Computers: Inc.

MasPar is looking to get some maring belp from alliances with Electro Data Systems Corp.'s EDS/dbintellect unit and software vendors Prism Solutions, Inc. and Business Objects, Inc. It also expects to sign a deal shortly with a third-party firm to handle commercial

er service. Harte said. The first NCube 3 model will target sei entific users when it ships in the second quarter of next year because its \$500,000 starting price is "pretty high-ticket," Ma-

lielp you manage a Client/Server en-

vironment by coordinating resources.

both juside and putside the LAN.

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with minimal effort. Applications de-

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DB2/2 and

to \$300,000 should be ready for the data base and video server markets ab three months later

bling dolla NCube will compete with

iprocessing vendors for de port business of 20G bytes of data up. It also plans to get into t of m MCube 1 has

on of the less reiali market," said Terry Benneti, a partner at The Bennett Co., a consulti firm in Portland, Ore. "Finding a l strange places where you can sell a temp is one thing, but being part of the

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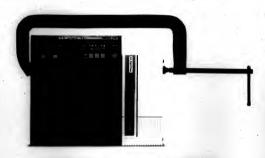
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EMERGING TECHNOLOGIES



PowerBuilder Developers:

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- David Litwack, Presider

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Developers extend user support with PowerBuilder

By Melinda-Carol Ballon

While some users of Powersoft Corp.'s Power-Builder development tools complain about the challenges of creating high-end applications, a small number of innovative developers are stressehing the range of Power-Builder capabilities to support as many as 700 users. Bo Sumanoil is avateme development manno.

Bo Swasson is systems development manage er at United Behavioral Systems (UBS), a Minscapolis-based managed behavioral health firm network of 32 outpatient clinics and case management offices that provides services for more than 2 million patients. UBS is a subsiding of United Resilvence (UBS).

Swannon's group ereated a three-tier client/server application using PowerBullder in conjunction with Open Environment Corp.'s development tools and the Open Software Foundation's Distributed Computing Environment

(DCE) remote procedure calls (RPC).

One application, dubbed Provnet, that UBS developed will soon support roughly 700 users, Swansbe said. An administrative application at UBS supports roughly 400 users, as will a

ease management system UBS is developing. Provnet manages elient cases, which in volves providing a patient and provider infor-

mation system. Swanson said.
Provent's query system allows UBS employces to took up providers who meet certain requirements, such as a doctor who speaks Bulgarian, works in a specific region and has experience in an appropriate specialty. Pronet also runs background checks on doctors'

Spanning the states Provnet spans states from Plorida to Wiscon-

sin to Utah and repinces an arcane and cumbersome system that was primarily paperbased.
"We needed to be able to scale the applications to a large number of disparate users,"

tions to a large number of disparate users, Swanson said. The database size can grow to 10G bytes because case notes must be retained for up to seven years by law, he added. Swanson's group, therefore, used Power-Builder as a front end, created a middlo tier

PowerBuilder apps

white United Behavioral Systems had the largest deployed Powersoft Power Builder application of companies Interviewed by Computerworld, Transco Energy Co in Houston used PowerPuilde to re-employer a maintranse

application to a client/server setup that supports about 126 users.

Transco orested a complex

Gas Markoting Atministration
System comprising 14 module
five of which are in production
according to Inja Chun, mana,
or of merchant IS at the comping. The application lets users
share the firm's administrative
information across departments and platforms. The sysments and platforms. The sys-

information across departments and patiforms. The system will support functions such as billing, gas purchase payments and transportation. Chun said the DataWindow feature of PowerBulder was heiphal. DataWindow provides

SQL objects, allowing develor ers to access database infortion without writing SQL cod "Talking to other develope

"Talking to other develope "Talking to other develope I've found that the complexit of what we are doing is actus

bleeding edge. Not many h developed this kind of distried application," Chun said. A najor bealth managem organization in Sacramoni-Calif., is also developing a P

erBuilder application, which will be deployed to 2,000 users although less than 20 are now on the system, said Ross Santos, a consultant at the

Santos, a consultant at the company.
Santos will determine, along with other architects for the application, which tools to use to

plication, which tools to use to create the middle and top tiers of the system. He said he expects it to be deployed gradualty among his organization's us or base in the next nine months

Symantec upgrade gets user OK

Early users of Symantee Corp.'s upgraded application development platform last week said it includes needed performance boosts as well as some belpful

new functions.
"It is more responsive," said Eric Lau, director of information systemast Ontario Storé Fixtures in Weston, Ontario, which began testing Enterprise Developer Version 2.9 just two weeks ago. "Say? I want to bring up a table for manipulation

or editing. It used to be a 15-or 20-second wait. Now it's three or four seconds." Version 2.0, officially launched last week, includes some tweaking as well as new capabilities, such as caching, that

boost overall performance. In addition, Symantoe ischiede a Data Migration facility to move data from one database to another and some basic paritioning techniques, including the shillty to generate database triggers on the server. Partitioning jets uswer develop applications as modules and deploy them on different systems on the net-

With Enterprise Developer, Symantee competes at the lower end of the applications development market against such players as Powersoft Corp. and Gupta Corp., analysts said.

"Hyou are in development and moving to production. Database Migration will he very helpful," said Joff Reiter, IS manager at Hill, Steadman & Simpson, a Chicago law firm, and another recent user of Version 2.0

Reiter said "the big things saide," be was also impressed with the basic cleanup that Version 2.0 provided over Version 1.1. "It wasn't super bugg; but they have added a lot of small features based on

nser feedback."

Lau said be in also looking forward to using the Database Migration.

"We were having difficulty with 1.1."
Lau said of earlier attempts to move database files. "It doesn't port everything over to another server."

Chet Geschickter, an analyst at Hurwitz

Consulting Group, Inc. in Watertown, Mass., said that with Version 2.0, Syman-tec is doing a good job with its repository-based approach to development. The Symantics repository stores business rules and data models.

"The product really is a merger be-

tweet the business rules-driven approach and the more accessible, electbased systems, "Geschirkter said. The repository approach is what sold Briss Vickery, a systems analyst at Fittor Duniel in Greenville, S.C. "Twe seen pred-

Duniel in Greenville, S.C. "Two seen prodnets with great repositories but poor Windows design (capabilities). This one seems to do both."

Program takes guesswork out of discount decisions

By Mitch Betts

When airlines decide on a price for a passenger ticket, they use yield-management systems full of optimization algo-

When clothing retailers decide to discount the price of an item, they use some combination of rule of thumb and educated

guess.

Now,a University of Florida researcher has developed prototype software with an
optimization algorithm that will add
more science to the
retailer's art. The de-

cinion-support system helps a retailer decide when and how much to mark down product prices to reach the retailer's

profit or inventory goals.

In essence, historical sales data, sales forecasts and even the retailer's intuition are plugged into the model, which is called Mark. It then calculates the price

trajectory seeded to reach the goal, such as eliminating end-of-season inventory. For example, Mark will suggest that the item be sold at full price for a week, then be marked down 30% the following



A powerful algorithm can help retailers decide when to cu

cts and of now much

week, 20% the next week and so on.

"The model makes use of what the retall buyer aiready knows but computes
many more scenarios of what could hapbe Discounts, page 61

Does a

marketing

Saplens IDEO" allows you to develop applications for the growing number of platforms and databases in your



department really make for a better product?

HYPE is a powerful thing. It can make the ordinary seem extraordinary. It can make products that have real limits seem desirable. And blind you to ones that can make you more productive. Hype can keep you from learning that Sapiens Ideo works with more platforms and databases than the application development products that you keep hearing about. (Platforms from mainframes and minis to Unix and Windows." Databases from Oracle and Sybase to Informix. Just to name a few.) Hype can make you think that something developed to work with what you have now is an acceptable product. And make you forget how quickly your environment changes. Hype can make you ignore Sapiens Ideo and sell you on products with high-priced marketing budgets. Hype is like that.

Application Development

PowerBuilder

CONTINUED FROM PAGE 77

that contained business and transactional logic to manage traffic flow data and created a third database layer that used Sybase, Inc.'s relational database management system. PowerBuilder applications are currently two-tier, he said. His group used PowerBuilder to create a presentation layer for the application

that resides on the end user's desktop. The middle business function layer was coded in the C rogramming and SQL and resides on the The Server third database layer was created using Syhaue's Server "It may be easier to get going on cli ent/server with two-fine 976 tems, but we needed growth

and scalability." Swanson

His site used Open Environment's tool set to create an RPC transactional environment that supports DCE, allowing the three tiers to communicate with one another, access data

and manage transactions. Swanson's group found multiple benefits to using the RPC envi-

"The RPC opens the connection, performs the function and closes down the connection smoothly. You're not maintaining connections all the time and dealing with the problems that entails," Swamson said. "You put out one request to the setwork for processing, and a selfcontained request comes back and

you're done.

According to Robin Direks, network service manager who oversees about a dozen UBS data-entry employees working on Prownet, the new system is much faster than the legacy Microrius, Ioc. Rbase database previously used in conjunction with PC DOS machines.

"It took the old database as long as 10 or 15 minutes to perform some queries. Now it's usually immediate, although it can take 10 or 15 seconds when it's slow." Direks said. Complicated processes can require searches against as many as

14,000 data points, she said "It's my understanding that the three-tier structure is primarily responsible for performance

improvements."

She added that the case of use of the Windows interface and the ability to perform complex queries have greatly in-

creased the efficiency of her staff.

Industry analysts said that amalgamating groups of teols to create three-tier client/server applications is not simple.

But for those who need the scalability.

and robustness, it is worth the effort, it they said.

no no now one of the control to get the control to

line transaction processing)-based applications."

the three-steep spinations with open for the creation of the creation spination with Proverbuild-ce must be prepared for some "serious system integration," Kastner added, because they will be dealing with tools from multiple venders and managing multiple tiers. But PowerBuilder handles "fat" deaktop clients, and it integrates will with deaktop clients, and it integrates will with deaktop applications, which alone is a big deal, Kastner and



 ${f A}$ smart way to spe

Application Development

Discounts

CONTINUED FROM PAGE 77

non under different pricing retimes." saud Murali Mantrala, an assistant professor of marketing at the university in Gainesville, Fla. Furthermore the markdown strategy

can be adjusted to reflect the latest actual sales data and retail conditions. "If

those as a major departer, then the tracetory is no longer valid so you can get a (nech estimate from that point on " he The software written in 5,000 lines of

C++ code, runs on an Intel Corp. 90386compatible PC with a math coprocessor, Mantrula said The core is a dynamic op imization algorithm that can account forumontainly

"Algorithms are enormously powerful. but they are underused in the retail industry" said Donald B. Brout, a consultant of retail and manufacturing systems and president of Quality Technology Deeisings inc in New York He said embedding optimization algorithms in an ordinary information system can give it extraordinary powers (CW, March 22.

Inventory management systems are cetting attention in the retail industry but not pricing (systems) even though

inventory and pricing are tightly inter-

twined." Broul said By using the reams of sales data that

retailers collect to adjust pricing strateries at the local level, a price optimization system,"can make a huge difference on the bottom line," Brout added

Mantrala who has been developing the matern for five years, said the timing and the magnitude of a retail markdown are critical "Subtle changes in timing -such as reducing the price 20% this week. instead of next week - can make a bur impact an your overall profitability," be said. "Or, you might mark down on the right days but do it by 10% more than you need to and that could have a really large offeet too

So it is not surprising that many on tional and regional retailers have expressed interest in the program, which Mantrala said he hopes to commercialize in the next six months

Interestion needed

Mark was tested in a pilot program at Body Shop, a women's clathing retailer in Jacksonville, Fla., where six retail havers chose a few items for the study and tracked them throughout the sen-

"All of the markdowns we do now are puesswork," said Beth Angelo, a Body Shop haver who used Mantrala's program "This program helps you plan your merchandise and sales strategies, and you can revise your first estimates it nation one alongs then what you expect.

Angelo said the program is ideal for items such as leans because store buyers know the sales history of such a staple beforehand. She praised the prototype or "the wave of the future"

ment with hundreds or thousands of items, updating Mark's sales data for each item would be too time-consuming While it usually takes Mark univ f5 secands to recommend a price strategy, data entry can take up to 10 to 15 minutes

manual data entry.

The model provides useful directions but huyers still need to use their judgment in making pricing decisions, especially with regard to fashion stems," Man-

Her only criticism was that in a depart-

Mantrula said the solution is to integrate Muck with store information sys tems so the data would automatically feed into the model, thus eliminating the

trala said.

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II interoperability.

ObjectPlus Corp. has announced Win-Plus 3.0 an object-oriented application development tool.

According to the Cambridge, Mass. company, WinPlus 3.0 provides a visual rapid development environment for front-end applications.

The product was designed for use with any graphic-intensive development proj-

WinPhas 3.0 costs \$495 ► ObjectPlus



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project manager, Eileen Birge was putting the final touches on a buge client/server system for a customer far from er bome base at BSG Corp. in Houston. The project in-volved 30 different vendors and ttt products. We'd finally gotten everything working

dors issued a new release of some product," Birge recalls. When she plugged in the new product, it blew the entire system, and "things wouldn't work together anymore."
Catastrophe? Not for Birge. She
posted an SOS on the Lotus Devel-

opment Corp. Notes technical bulletin board that links BSG's 517 employees in 35 project loca-tions around the country. A half-

dozen consultants responded that day, sharing their expertise and experience to belp her solve the problem.

"The Notes system has been a lifesaver," she says. Each piece of it was developed to meet specific business needs and dovetail with an unusual corporate culture. How do you build a system like that? The key is to bridge the com-

munication gap that has always existed between information sys-tems and husiness, belping business users envision what IS can do

and helping IS staff understand what they should do.
The two sides bave always had a tough time reaching a mutual un-

derstanding. "The problem has been that the end-neer community thinks they can communicate

eir requirements and tS thinks, that they understand," says Alan Prenouveau, director of the Lotus Consulting Services Group, a sub sidiary that belos Lotus customers develop affective Notes systems

But with the latest technologies. such as client/server mobile com puting and applications such as Notes, communication must

needed to standardize audit information and make it evailable to all teams at all sites at the same time Notes was able to deliver that standardized information and a iot more once the consultants were

able to show meers what was possible To translate requirements into reality the Lotus group built a prototype auditing process using

changes in the process.

"Users don't really understand

When people see what it can do,

they go, 'Aha! Now if I can do that,

can I do this? Then we add func

tionality. With each iteration,

you're showing them a little bit

more of what could be that they've never thought of before

A side benefit of the Notes sys-

tem for NationsBank was the abili

ty to integrate the audit review

process into the Notes system so

reports move through review lev-

els electronically. Two or three

people at different locations rou-

tinely review each audit report. Moreover, they use the Notes Doc-

limb frature tornet elections of links

between the reports and the often voluminous backup materials.

Now rather than pore through

mountains of paper addends, re-

viewers click on a citation and the

could mek

Aba!" At Domeeg Importers. Inc. a \$100 million importer and distributor of wines and liquors bridging the communications gap was one of the first orders of busineer for the new chief information

Domecq had 45 employees in its Greenwich, Conn., beadquarters and 45 salespeople throug Notes It allows mere to one ther

country when it hired Bob Cook as director of information technolone Cook was charmed with developing

an information system to give Domeso a competitive advantage. Domeso retained a team from Copeopt Information Systems to help him. (Cook still works with Domeco on a con-

Cook knows elient/server tech pology; but he had to grow into the lionne business

They spent six months bringing me through the business," be says. "I went out into the field with salespeople. I spent time with marketing people. I learned how they look at sales, depletion, profitability; how they look at external third-party information sources like market research how they used that in marketing to substan tiate pricing, discounts, brand

After his solourn on the bustness side, Cook decided that getchart below). The system keeps

having to move between IS and understand how a new technology can help users reach the level of business, he drove development from both sides himself.

In designing a database, for example, a user would ask for the usual customer name, city, state, etmost and answel calor

Rut because I understand the husbase I know I don't want had annual sales -- I want to see depletion, geographical data, how it's trending." Cook says. "Maybe the Hispanic population is increasing by 15% but Hispanic brands are up only 4%. A nser could never conceptualize [the system's] being able to bring that data together. Cook could. The system he developed puts that kind of data, to gether with more conventional information on order and inventory status, in salespeople's laptops "We don't decide what they can or pan't do." says Patrick McGuinnoss, current director of informe tion technology at Domeon. "They can drill down and get whatever date they went "

It also includes a decision-sup port system that matches quotas plans, historical sales and current denictions and uses business redes to abort the anisomerson i

something is out of whack For example, a typical lie tail customer who has sold 200, 220 and 235 cases in the past three Novembers and currently has 100 for the coming November may underestimate and order only 100 (see

COMMUNICATION IS STILL THE KEY TO ALIGNING INFORMATION SYSTEMS WITH BUSINESS GOALS. THE FIRST STEP IS OPENING THE MINDS OF USERS TO THE POTENTIAL BENEFITS OF NEW TECHNOLOGIES.

reach another total until they see an application they 18 must belp users imagine can relate to." Premouveau save

what's possible "Businesspeeple don't conceptually understand how much [to day's] technology can do, so they erosk underimagine or undervisualize," says Robert Cook, a consultant at Enterprise Information Systems, a division of Concept Information Systems in Stamford, Conn

Companies developing Notes applications can provide insight into how organizations can communicate the notential of new technology Notes an increasingly popular elient/server application development environment is not so much an application as it is an umbrella for tinking disparate applications and sharing information across wide evorraphical

ALL AT ONCE

One company that had to wrestle with sharing information over widely scattered locations was NationsBank Corp. in Charlotte, N.C. To improve the way Nations Rank performed its basic auditing nction, the Lotus Consulting Services Group took a prototyping approach to developing a Notes system for the 350-person audit department Auditing is done on a team ba-

sis," says John Curry, senior vice resident and director of electronle data processing audit. 'We do a iot of nationwide audits."

Traditionally, those audits were done sequentially, with teams moving from site to site; Nations-Bank management sought to improve audit quality and save time and money by auditing different sites concurrently. To do this, it backup documentation appears. This allows them to finish reviews in one day The main advantage of the Notes system, however, is that it allows dispersed audit teams to work concurrently Previously, because complex audits were performed and reviewed; in sections, parts could fall through the cracks and remain unfinished or unreviewed. The Notes system elects reviewers if sections of the template are un-

finished or have not been signed offon The ability to communicate for people to have this multiple access and do work concurrently vs. a very sequential operation - is a tremendous advantage," Curry says "The time from the begin-

ning to the end of the audit is tremendously compressed." Getting this communication advantage requires that IS managers

DUDWESS USERS CAN MANY BETTER MARCETING

ting certain information to the field sales force would allow the reps to use their entrepreneurial skills to get an edge on the compo-

A corollary need was for better use of financial resources. Cook's nersion in the business belped him align the system properly and quickly. Rather than constantly

track of this data, notes the upward trend and alerts the sales person that the customer has underordered. This enables him to move more product white heading off potential problems for himself and the customer. The system gives Domeco more

for its money by providing quick The Vision Thing, page 86

Management

THE

CONTINUED FROM PAGE 85 feedback and allowing the company to te planning four times a year rather than once. That way, if a sales campaign

is floundering, it can be revamped after one quarter with three quarters of the budget still intact. "It's much more proactive," Cook says.

You can see what's going on in a market long before the competition does and can west a lot smarter At the bottom line, it looks like the tech nology has also delivered the competitive edge. "We were up 60% in sales in the last year, and we think information tech

If the developer and the user are the on as is the case with BSG, you

don't have townit for the "Aba!" As a systems integrator specializing in elient/server technology BSG has virtually no man between IS and business because IS is the business, so developing a well-aligned system quickly was fairly simple. The key was using Notes applications to give widely dispersed bush ness users quick and easy access to one

shins between objects, are auto-

matically transported into your

Manager automatically handles

database access so you're free to

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cation, run

it royaltyfree on ous presentation environments, 100 hardware platforms, nine operating systems, 20 databases, and any network

another and to other departments. The main com ment of BSG's culture.

Birge says, is the sharing of information in a geographically dispersed environ-"it's our business to exchange ideas," she says, "But we're not a com pany where everyone is together a lot

physically Right now we're in 25 places throughout the country: "There are two things critical to our persons First we have to leverage knowledge. Notes is one of the tools that really helps us bottle expertise and make

it evallable to many clients rather than only to the client where the resident expert happens to be." The second success factor is "sharing

our culture and keeping our people in volved and a part of BSG," she says.
The basic Nates system got BSG's colective feet wet. "We told people to Look at this and then tell us what you need," River recalls. "It was an areanic process Users looked into it and came up with

One side henefit of the Notes system was to improve employee access to train ingresources. Professional development

is the second highest expense item at

BSG, and handling responses to requests for courses from the 500 employees was a challenge in itself BSG built a Notes database of the

course descriptions and schedules of 50 approved vendors. A consultant can click on a course offering and generate an electronic request form, which is automatically completed and routed to the project manager to approve time off. it then goes to the travel coordinator to price travel, to the administrative manager for budget approval and to the train ing coordinator. If a request is stalled, the system shows where; if a request is refused, the emplayee is so notified. Numerous ideas have been deve

ost within a week ar two of conception "It's been vital to our company," Birgs says. "I can't imagine life without it."

Systems you can't live without are systems aligned with the business strategy. and the key to that alignment is comnication. The terms of the dialogue between IS and users are evolving, how ever. Freed by the systems' capab the technology side is no longer speaking the language of limits.

Melymaka is a free-lance writer in Ducherry,

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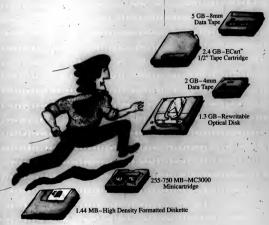
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Bah, houseb

Roscoe I, Rant



I'm as prickly as a newerammer who sat on a megabyte of memory chine with the pointy sade up. I hust hought a new home. And let me tell you, the companies that "helped" me

ove in didn't exactly make me swoon with domestic bliss.

I mean the domester systems these neonie had (if they even had them) and e way they used them would have been OK if I was moving in to, say, a nice mud but during the Stone Age. But for 1994?

Formet about it. It started even before we bought the place. Think the real estate agent could give us a printout of bomes in our price renew? Oh no Instead my wife and I have to flip through hundreds of smudgy pages of real estate books. Make a little ote here, a list there. And get a computerized copy of recent real estate sales in town? Right.

Intelligence

Speaking in 15 tongues st when information systems profes-

sionals thunght they had found a common language with business users, along came elient/server to introduce a new Tower of Techno-Babel

According to Paul Mulligan, vice presient of operations research at Fidelity Investments in Boston, the move to client/server has introduced a whole new technology sublanguage. The result is that business users are again scratching their beeds when IS staff try to talk turkey with them. That isn't helping bridge nunications gap that already existed, Mulligan notes.

Mullican says the language barrier is also showing up between client/server aficionados and mainframe veterans. Speaking before the Boston chapter of the Association for Systems Management recently, Mulligan, who has 20 years of experience in IS, noted that when his younger IS staffers come to bim with a client/server problem, be often finds himself confessing to senior managreemnt. "I don't know what they said,

It's not like the agent doesn't have all this stuff on her Macintosh or anything she does. Since when does it burt busi ness to make it easier for customers to

spend money? It's not like we're going to turn around and sell the information they give us, for Pete's sake. So by some miracle, acouple of months later we manage to find a nice little place. it's a good thing we prequalified for the loan. I mean, from start to finish. It takes

nearly two months for the bank to let us sign our lives away. All this for a process that regulares what maybe 15 minutes of paper shuffling and five minutes of credit checking?

Why can't an industry that spends. I don't know, maybe \$10 zillion a year on computers approve a mortgage in less time than it takes to build the average

The tip of the leebers!

So moving day approaches. A week before the birday, I call the big national moving company that's supposed to do the job. "Sorry, Mr. Rant," the local own er/operator says. "It looks like your truck somehow got rerouted. No, we don't know exactly where, maybe Colo

rado. But the driver is supposed to call by this Thursday." We finally get another truck - a week late. It turns out that was just the warm-on A month later we need to rent a smaller

but it doesn't sound good."

IS not tops on their list Few top U.S. manufacturing com plan to significantly invest in new mann facturing control system software, and disappointment with the results of me ufacturing resource diamning (MRP) II is

a major lactor That is one of the findings of a survey of more than 300 senior-level manufacturing executives at companies and cor porate divisions with sales of more than \$25 million. The survey asked manufac-

turing executives what steps their com panies are taking to gain competitive advantage. Topping their responses were total quality management, continuous improvement, businesis process re-engineering, cycle time reduction and improved customer service.

But the same executives are diseatisfied with their current information systems and therefore plan as major IS in-vestments. They cited disappointing performance of MRP II and a skepticism of the return on investment (ROI) from technology. They indicated "the real ROI" was to be found in quality improve ment cycle time reduction and improved delivery performance.

Source: Survey by R. Michael Danovan, Inc., Rotick,

truck to pick up a couch my sister is givingue. It doesn't take me long to figure out there must be a better way to check how many trucks are available in the olitan area than by calling every dealer in the vellow pages and askupr.

Do was have any tracks this woodward? But not one of these socalled major chains has a computer system that can tell them if their fre chise in the next town has what I'm looking for. There's no computer

linking any of these busi nesses, so I end up calling maybe 15 or 18 rental places And den't even nek me about how hadly they screw up my bill. So then we decide to switch from oll to gas to heat our bot water. We

call the local gas compa ny Sorry, we have to visit the office to make the request. So we do

We talk to the wo an who handles new accounts; then we talk to the scheduling department, then back to the woman in new accounts, then to the rental program person. Later that week we talk to the plumber hired to install the meter. Then we talk to the guy who drills the hole so ster can go in

in the end, guess how many calls and visits it takes to install a new gas meter and hot water heater? Twenty. I mean, the may who makes the muffine at my local coffee shop has heard about re-east neering. Think maybe he ought to be run

ning these utilities? Leveld on an and on For instance, we

Leveraging IS for advantage

To help companies leverage technologi for competitive advantage, an institute for Business Innovation (IBI) has formed in Portland, Ore. The institute annoupced the faculty for its first educational offering next month that reads like a who's who of MIT's Sloan School of

The institute, a division of Sequen Computer Systems, Inc., was established to provide a foundation upon which senior blusiness and technology executives can apply information technology effectively," according to institute spokes-woman Linds Duchsine.

The first educational series will be a five-day program titled "Aligning Busi-ness and Technology for Competitive Advantage." It will be offered at Babson College's Center for Executive Educa in Wellesley, Mass., Jan. 15-19 and at the Chamindate Executive Conference Cen-

ter in Santa Cruz, Calif., March 12-MIT Stoan School instructors who will

serve as faculty for the series include Chris F. Kernerer, associate professor, Donald R. Lessard, professor of intern tional management information; Stuart Madnick, professor of information techev: Michael S. Scotl Morton, profes sor of management; Jeanne W. Ross rebought a new had and the store own charged me \$50 for delivery. The st woman explained that because of the way these things are processed, it would take two months for my account to be

credited. It's been four months, and I'm still waiting Ob. did I mention my tax bill? Turns out it's Why can't an emana takén manu fon industry that my local amountantes spends ...

maybe \$10

zillion a year on

computers

approve a

mortgage in

less time than it

takes to build

the average

house?

(god Registry of Deeds to transfer the property ti tie to my name. Until then. I have to closur down to Town Hall and pick up my own hiti which is still under the previous comer's name

Choose Don't get me wrong Not every company I've used auffers from Clue Definis Discorder Streets ample, I went to The ome Depot, applied for

a credit account and blogo, 15 minutes later h was charging Sheetrock and ripeases like Home Improvement's Tim 'The Tool

Man"Taylor And I did hear recently that Fannie Mar and one of the bigmortgage comp nice are working on a mortgage whose waiting time is not measured in dog smare Wonders never reason

But let me tell you: It'll be a long time before I hang a tapestry in my living re that says, "Computer Sweet Computer,"

In real life, the pseudonymous Bant is on name consumer of information technology and afform pater world senior editor, the may still be one of YOUR COMMAN'S CASSOMERS.

search associate at the Center for Infor mation Systems Research: Michael Ste ent principal research scientist; John Sterman, professor of management sci-ence; and David Tennenhouse, MIT associnte professor

John C. Henderson, professor of man agement information systems at the Soston University School of Management, and Lary Krakauer, vice presi dent of JYACC, Inc., will also be on the fac-

For information on the institute or the education series, contact Linda Duchaine. The institute for Business Innovation, 1 World Trade, Center, Suite 1100. Portland, Ore. 97204, (800) 933-0058, fax (503) 578-5010

Database is a delight Professional Services Managem

sociation in Charlotte, N.C., recently bonored organizations that have belped improve the business management of architectural, engineering and other design and consulting firms. Among them was Al/Boggs, a planning and architecture firm in Washington that created a re-lational database to track marketing isformation. The database links valuable information and generates reports. in cluding prospect lead tists, sales call re-

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the sted procurement process. I The Plam Beach Medical Examiner's Office took advantage of results objects to rectar a powerful object technology (OT) application—in advantage of results objects to rectar a powerful object technology (OT) application—in record time. I Canadian Tire used OT to build a true client/server application that improved customer service an increased traffic in retail stores. I The fact is, tokussands of organizations are already putting object technology to work in manufacturing, financial services, telecommunications, aerospace, defense, retail, transportation, and more. I Object world Bostom—Marth 19-23, 1995—1-39 or chance to alsoever how you can use OT to crease distributed applications that improve performance, cut costs, boost profits, and build competitive advantage. I So register of Object World Bostom today, And increase your chances of success.

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Jan Station, President of Palladio Software, will conduct a panel discussion, "Theory is Consul-That Cone is Gar The follows." The



Steven A. IIII., General Manager of IBM Software Solutions, will explor the topic, "Objects: Nor Jest For Programmers Advisors," See how objects have become the driving fore in the way software is developed, membraned, delayered, and maintained.



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IAN 15-21

that Annual Mobile Communications 'os Confer once, Dalias, Jan. 16-18 - The conference will ess North American, European and Pacific Rim regions, marketing strategies used in these regions and regulatory and legislative malters simed at mobile environment sendors and service providers, Contact Frost & Sullivan, Inc., Senta Clarity Calif (500) 256-1076

1995 Usenix Technical on Advanced Computing Systems. New Orleans, Jan. 16-20 — Contact Usenix Association, Berkeley, Calif. (510) 528-

ioltispo '95. San Jose, Calif., Jan. 17-19 - The conference will focus on basipess and trobuical issues facine software firms. Sessions in clude product development; marketing and sales; technical support; customer service; translation, or "localization"; finance; licensing packaging and manufacturing Contact Mark Cramer, Exponsators, Englewood, Calif. (2020 271-2000

Mobile Outlook on Communications and Comput-ing, Atlanta, Jun. 18-20 — The three-day conference will focus on how to intereste mobile avatems into a fixed computing environment, how much of what is now in place must change to permit remote access, how and when to make required hardware and software modifications and why some promising pilot programs sucesed while others fall. Contact: David A. Kamin er Koteh & Philiak Inc. New York, N.Y. (212) 486-6196

JAN. 22-28

Consist '95 Conference & Exposition. Washing-ton, Jan. 23-28 — Products and technologies to be exhibited will include the following interpotworking habs, bridges, routers, gateways, modems, petwork applications, databases, private branch exchange-to-computer applications, multimedia, videoconferencing, LANs, services, adapters, wiring backup and network services. local and long-distance services, mobile conputing, portable and handbeld computers, client antiquere wireless data services, petwork magnent and security Contact: IDG World Expo. Fransinchum, Mass. (200) 879-6700.

JAN. 29-FEB. 4

social Libraries Association 1995 Winter Educarence. Releigh, N.C., Jan. 29-31 -Theme: Managing information technology. Con-

ton, D.C. (202) 234-4700. del EDI Conference, San Jose, Calif Jan. 29-Feb. 1 - Seminary include "How to Define, Organize and Massage the EDI Committee." "Managing Electronic Commerce Integra-

cial EDI Implementation" and "Hop on the Highway: Electronic Commerce on the Internet." How \$826 \$730 for early registration. Contact: Pinancial EDI Conference Registrar National Antomated Clearing House Association, Bultimore No. (200) 742-8190

Second Annual Display Manufacturing Technology Conference. Senta Clare, Calif., Jan. 31-Feb. 2 - Contact: Mark Goldfarb, Palisades Instit for Research Services, Artington, Va. (800) 787tion," "Applying Project Management to Pinns 7477.

Chargeback for Centralized and Distributed Processing. Las Veges, Feb. 1-3 -- Contact: Pinns cial Management for Data Processing, San Francisco Colf. (415) 731-3706.

FED 5.11

Demo '95, Palm Springs, Calif., Feb. 5-8 - The rence will brinde product demonstrations, product premieres and head-to-head product showlowns. Contact: InfoWorld Edito riel Fronta San Mater Celli (800) 833-4317.



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1	14	21	15 Management Specials CEO Survey CEO annual and a state of the Survey CEO annual and a state of the Survey Special Quarterly Report Re-sugmenting the Workplace	SIM Spring Conference 5/1 - 5/3 DB Expo, Sen Francisco 5/1 - 5/5 Executive Technology : Phoerix 5/3 - 5/5	,
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22	5	12	CW Guide To: Database Development Tools: With database tools coming from multiple directions (database vendors, application builders, and middleaver makins), which host set makes the most sense for your environment? In a Tout of bread approach feasible and cost effective? Buyers' Satisfaction Scienceard: The market leading database development look. Firing Line: High profile hor new development look.		
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19	2	9	CW Guide To: PC Servers. How can your organization benefit from PC-based servers? Can PC servers deliver the aarne reliability and prince/performance as RISC-based systems? What are the miss involved? Buyers' Settification Scorecard: Marinal leading intel-based PC servers. Pfiling Line: The lates PowerPC-based server or best sharmaries.	PC Expo New York City 6/20 - 6/22	
26	9	16	IS Management Special	*5	

In Depth

AT ISSUE: Is the Mac a serious business machine's No way, says a PC backer, claiming a lack of Mac

amplications and vendor support. But a proponent says the PowerPC chip and multimedia features make the Mac a powerful tool.

BY DAN DOEHLER

Apple Computer, Inc.'s Macintosh never was, is not now and never will be a smart decision for husiness environments. I'm not alone in this assessment. All you have to do is pick up a trade newspaper

and read about how major Macintosh business sites - The Boeing Co., Ernst & Young and Visa International. Inc. - are phasing out their Mac environments.

The Mac experiment at my company has failed, too. Our Macintoshes, chosen six to eight months ago by our training department to train salespeople, are gathering

Currently, Apple and rabid Macintosh users maintain that the PowerPC will turn the aging Mac into a force to be reckoned with. Unfortunately, this latest attempt to bolster sales is only going to make things worse.

I agree with indestry guru Ted Prince, who argues that the PowerPC is immediately useful only if you run native software on it for high-end, graphics-type programs. which rules out most of the general business populace. Users shouldn't hold their

breath waiting for native software for their favorite applications, he says. And Windows 95, the next version of Windows, may really make Apple whimper. with what is essentially an updated version of the Macintosh operating system. Good old Windows, with all its kindginess, is already harting the Msc in husiness settings, Prince points out. Apple's hestaches only mount when you bring in Microsoft Corp's stick, Mscintosh-like Windows 95, which I got a chance to see during a stration at Comdex/Fall '94. That program is bound to do some damage. Arrivederci. Mac bab

The PowerFC has been taking a beating against Intel Corp. Pentium-hased machipes in laboratory tests. In one test by PC World, an Atronics International, Inc. processor outperformed the 66-MHz Power Maciatosh 7100 in all areas except scrolling a spreadsheet. And the Power Macintosh machine costs \$800 more! Worse performance at a higher price. Humm, that's not something I'm looking for.

Why change when you have everything you want in the Intel processor? I get reliability and a proven track record with my PCs. I also feel secure because many vendors support the Windows operating environment. Apple's operating system gets support only from Apple. At one point, Apple had major developers creating software only for it. Now these very companies are developing software for other operating

Aging system, Hmited apps
I just can't see limiting myself to an aging operating system with a new chip and
maybe 200 applications. I'd rather have access to the best continually improving opng system — Windows — and to the thousands of applications that run with it. At Comdex, I experienced firsthand the difference in numbers between software available for Apple machines and the software available for Intel-based machines. In looking across the immense show floor, there were little Windows trademarks stretched as far as I could see in all directions. Apple software was there, of course, but it didn't have the market presence on which I'd like to base my business.

Doebler in 15 manager at Del Papa Distributing Co., a wholesaler of Anheuser-Busch products in

If you want to gamble your business, buy Mac



Texas City, Texas.

is dead for business

BY MATT GHOURDIIAN

Information systems managers who have limited experience with Apple Computer, inc. 8 Macintosh have stated three main respons for not buying the Macintosh: it costs less to acquire basis PC hardware, you can pershase PCs from multiple venders (while you can get the Macintosh only from Apple) and there is more poftware available on the PC castform.

able on the PC platform.

Those reasons don't have merit anymore.

The Macintosh now holds a substantial price/performance advantage over comparably equipped PC since the introduction of the Centris-claus computers in Pebraury 1889, according to a report by ingram Micro, Inc. is aboratory in Banta Ann. Call High-quality on-board video, build-in 16-bit sound and other services make it pricecompetitive right out of the box.

The machine is also cheeper to own. Gartner Group, Inc. found in its recent annual survey that the five-year cost of owning a Macinton's in \$5,000 less than that of owning a comparable Window-based machine. Those sarings stem from Macinton's 's short learning curve, which translates into lower training outse. Propie nee this machine. With the Power Macinton's its short searchine. With the Power Macinton's the schantage will widen. The Power Macinton's the Macinton's

only true multiple, personality system, remaining DOS, Windows and Aughe OS and, by any year, Person-Gu (Linka, DOS and Taliguest, Inc. ** Singlenet. Also by next by sac. 158 charle will be able to laye Alac From IBM and Metorote, Inc., which will result immer competition and moneyation. The criter of the Macinton Ingegrapmen on the market, that's. As for the complaint that the number of Windows and Macintonh programs in its satisfaction, with most popular programs are levely available on both platforms.

Users love it.

The Macistosh is case of use and intuitive nature puts it for shread of the PC is empowering workers and increasing productivity. While the surrough user is today "RC is

continuouse it have been and increasing productivity specifications.

Continuouse it have been and increasing productivity applications.

Put years ago, it was a struggle to get a PC on the desk of sonice partners at However,

Simon. Today, all oftem here Mechaniches on their desks and at home. Most carry

WowerBooks when they trivel.

Hopporate IS managers were evaluated on how much end users used computers and how productive they were, you would see more Maciatothes and fewer PCs.

Prom an IS viewpoint, the Maciatosh is easy to Install and maintain. Because the

Macintosh comes with high-speed networking and can be connected to existing networks with case, it takes my IS staff less than 20 minutes to configure a new Mac and load all the software. We support 850 Macintoshoe in three offices with only seven end-user support personnel.

The Machas the PC best in terms of market value, too. In April 1990, Apple introduced the Macintosh IFFX, around the same time IBM Introduced PCs based on the Intel Corp. 1856 increprocessor Today, according to United Computer Exchange, that Macintosh IFFX is worth about \$1,250, while a comparable PC is worth about \$225.

Ghourdjian is national director of technology at the law firm of Howevy & Simon, which has offices in Los Angeles and Washington.



PCs cost more, give you less than Macs

In Depth: Is the Mac dead for business?

Doehler

CONTINUED FROM PAGE 96

And the Macintosh software just pla costs more. For example, Microsoft's Excel for Windows costs \$299. You'll shell out \$100 more for the Apple version. That \$100 difference adds up pretty quickly if you harmen to have a few thousand Mac-

To give it a shot in the arm, perhaps, Apple teaming with IRM to develop a new hardware standard that will converge

netil 1996 It will miss its window of opportunity and arrive too late to have any impact on

not be available

Windows PCs Instead of Macs In the end. Apple seems to be preach to the converted with its Power Maci tosh line. A recent report from Computer Intelligence InfoCriro says that those corporate buyers most interested in Power Macintoshes are already those firmly naturalished in Annie's camp universities and schools. CI InfoCorp's monthly interviews of 30,000 end users reveal something just as disturbing Even with the Power Macintosh launch. there still seems to be a gradual replace ment of Macintoshes with Intel PCs, with no sign this trend is abating. I'll keep my PCs, thank you.

Ghourdiian

CONTINUED FROM PAGE 97

The hoor can in value between the two machines is directly attributable to Apple's solid support in its operating systems for older machines. Even in the company's move to System 7.5 and RISCbased PowerPC microprocessors, it safeguards its customers. Apple provides up grades for most current machines to the PowerPC platform, while System 7.5 will run on just about any Macintosh ever built. That gives IS managers protection from chaoloscoppo Next summer, when PC users get their

first look at Windows 95, the next version of Windows. Power Macintosh users will see the new Apple operating system 8.0. ende-named Copland. With the release of Copland and its new microkernel design. Apple will deliver pre-emptive multitask ing and full-protected memory. In addition, the operating system will sport a completely new user interface that will challenge the DOS/Windows world. Windows 95 carries the past with it be

council's written in native Intel code and etili has If-hit calls Conland on the othor hand, is completely rewritten to take advantage of the PowerPC. It readies users for the migration to the 64-bit operating environment. In the next two years, armed with this new performance edge. the Macintosh will lead the way in communication technologies such as voice recognition, multimedia, telephony and collaboration.

With more than 500 native Power Macintosh software programs now shipping, it is safe to say the computer industry has just witnessed one of the smoothest bardware and software transitions in

Conventional wisdom might say the safe decision is to huy PC; after all, 85% of the market does. But during the next 16 months, as the Macintosh pistform moves to the PowerPC 604 and 620 microprocessors and the price/performance stap widens between the Power Macin tosh and the PC, I suspect there will be

more than one IS manager who will wonder why he didn't buy Mac. But even more important, the PC world faces the limited life of the CICS architec-

ture and Windows. Meanwhile, the Pow-er Macintosh is positioned for a long pe-riod of growth and stability. Better price/performance, cheaper to own, much easier to use and plugged in to the future. Is the Macintosh dead as a business machine? Hardly.

"Marathon buys one of these every month"

the IRM/Motorola, Inc. PowerPC Refer-

ence Pletform with Apple's architecture

into a new platform, known as AIM (Ap-

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Computer Careers

EDI gatekeepers

Management of electronic data interchange partnerships may not fall onto IS' shoulders, but technical professionals can contribute in significant ways

By Leslie Goff

Although electronic data interchange tions technologies, the inform ation systems department's rule is generally limited to that of linison, gatekeeper and

nology's impact on how husiness is con ducted, but their work centers around the smooth cost-efficient day-to-day operation of EDI at their companies, not the

management of EDI partnerships The value (that information techno ogy] provides is ensuring we have the net controlishle communications and that we map the data is a way that adberes to the standards," says Betty Zimmerman, manager of projects at Texaco. Inc. and chairman of the Gulf Coast EDI Hear Group both in Houston

Coordinator's role

EAST

An EDI coordinator, as the IS contact is usually designated, must be grounded in affected by EDI. The person is an integral contributor to EDI partnerships but remains largely a supporting player. "Once you set up the electronic link with the trading partner, you don't really deal with them, unless you're upgrading or responding to a problem," says Linda sh, a senior analyst/EDI coordinafor at Detroit Edison in Michigan. "The

there's a problem."

But that shouldn't minimize IS's involvement in EDL Responsibility for EDL
operations within IS can fall on one or

and the overall IS structure (see story mare 101). However duties are delegated. the job covers five principal areas; maintaining communications links; enforcing FDt standards: maintaining EDt trapslation software; mapping data; and EDI applications development, integration and

several shoulders, depending on the volume of a company's EDI transactions

The Date

Interchange

Standards

Association, Inc.

can out you in

support.

For example, Detroit Edison is using
EDI for purchasing and outbound billing and is actively impeding other applications. Swatosh is responsible for the utility's mainframe software, including IBM's Data Interchange, an EDI transle tion package. But with each FDI project. Swatosh

has gradually turned most of the other work over to the users. "Our first appli cation was purchasing, and I had a purchasing rep come over to 18 for a while, osh says. "They took the expertise back with them. I've continued that with more departmental EDI reps Larger EDI users tend to take a more

team-oriented approach. Texaco, Zim-EDI gatekeepers, page 101

or its partners don't adhere to the rules. you're forced into a proprietary relationship. and the benefits of EDI are lost."

Industry-specific EDI standards organiza-tions work to influence ANSI X 12 standards and help members conform to industry imple

"The standards change every four mon and most of the user communities (update) once a year," Lemme says. "It's important to stay current or the relationship becomes a

proprietary one."

Regional and local EDI user groups tend to be more informal than standards organiza-tions, offering speakers, roundtable discus-

sions and networking opportunities. More than 30 of these groups are scattered coast to-coast. (For a complete guide to EDI user ed standards organizations, see "EDI idea fac-

Study the standards

keeping abreast of your industry's EDI standards is akin to driving want to demonstrate IS's value to the EDI ertnership, at least participate in a regional EDI oser group if not in an industry-specific

touch with group.
"Those are the only forums you have for adindustry-specific dressing issues relative to the improper use of the standards," says Paul Lemme, vice president of professional services at TSI in ternational Software, an EDI software and

EDI user groups. Call (703) 548-7005.

services firm in Wilton. Conn. "EDI is designed to eliminate the need for partner-by-partner specifics. If your company

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EDI gatekeepers

CONTINUED FROM PAGE 100

an says, has an information tech nology/EDF team responsible for the EDI infrastructure, translation and communications while EDI applications fall under the province of husiness applications

Likewise, a centralized team at Southwestern Bell Telephone in St. Louis supports about to major EDI applications maps the data and maintains the EDI communications links and translation software, says Susan Watson, electronic commerce function manager of information services and a founding member of the Greater St. Louis EDI Forum.

Because EDI brings together a variety of IS specialties, you don't need an EDI project on your resume to join an EDI of-

"Prior EDI experience is not required because we can do the EDI training and, typically we wouldn't have a lot of people

available" to choose from, Zimmerman says. But, "EDI applications experience definitely acts you spart from the Cacona,

While knowledge of EDI standards and experience implementing them in your industry are a plus, all you really need is any combination of experience in the areas of applications development and support, telecommunications or maintrame software programming and excel-

Our World

Value-adding jobs

esponsibility for managing EDI partnership to fall on the applications' users, but IS prof can add value to the partnership. Of course, titles as positions vary with company size. For example, firm with only a few trading partners may have one EDI coordi nator responsible for mapping and translation, appli programming and day-to-day operations, including programming and day-to-day operations, including must to new partners, says Dale Gordon, president of Commer Link, an EDI recruitment firm in Tampa, Fla. Conversely. romnanies with thousands of pariners may have one or two er/analysts or busipess analysts and an EDI team leader.

Technical liaison between the company and its trading part ners; responsible for day-to-day operations; assists in es tablishing trading partner agreements and service levels;

Watson, for example, says she looks for "a good [information technology] tions," she says. professional who has the technology base in translation software [and] IBM Electronic purchas You don't need an EDI project on your resume to

join the effort. A number of IS specialties will do. However, EDI applications experience definitely sets you apart from the crowd.

mainframes - a good Cobol programmer. But, you're also on the phone a lot, and it's really important to be able to represent your company well."

lent personal communications skills.

Knowing your limits Zimmerman also favors strong data analysis skills. 'When dealing with EDL you may be proactive in changing the way you do business, but you can't impose those kinds of changes on the partlection and choosing communications protocols; tracks the status of dominant transmittals and translations provi on-site and phone support to EDI users; keeps up with stateof the art developments in EDI and monitors vendor ogress; participates in X.12 standards development; re-

Former Community of Tenner He

Di programmer/analyst: stearates EDI translation software with business appli ma: maps translated EDI data into the appropriate appli ations, develops and tests new maps, establishes EDI disaster recovery plan; may be responsible for the cor manications links with trading partners, reports to EDI nator or team leader. Annual salary: \$45,000 to

Manages the overall EDI effort from the technical side; spearheads newdevelopment projects in electronic com-merce. Annual skiary: 845,000 to 860,000.

spective in addition to solid technical ner's applications environment. In the partner relationship, you must be sensitive to the typical applications' limits-

> ple, are general ly inst automat ed versions of paper purchase orders, which allow only one

name in each "ship to" field. While one company may modify this paper purchase order restriction to take advantage of the economies of scale of EDL its trading partners

Zimmerman notes that EDI coordin tors must be able to deal with the impli entions of the various applications used Zimmerman's example underscores the importance of having a business per-

skills. To move EDI support out of the shadows and into the footlights, EDI professionals on the information technology side must facilitate real change in how the company conducts business. 'Many EDI professionals think of

hemselves as technologists and don't think of the process they're supporting. says Barbara Reilly, research director for electronic commerce strategies at Gartner Group, Inc. in Stamford, Conn. People working to support the effort should be involved in the business process and understand it and should be act ing as systems design types rather than pure technology/operations types," Rell ly adds. "First look at the process and then at how to best incorporate electron ic commerce into the process. Make EDI

an enabler to change the process." Goff is a free-tance writer in New York.



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RENEGADE PIM

Unmanaged personal information managers can spell disaster down the road when users want to share

Information Standardize now.

Personal information managers (PIM) are in vogue if rising sales are any indiention. But fashion doesn't always beget function, particularly when it results in PIM users breaking ranks with corpo-

While there is no way of knowing how many backdoor PIM users exist in any given organization, it's likely that of the 80% of consumers who independently buy PIMs, a fair number load them onto their PCs at work. Information systems staffs might choose not to take notice of them now, but down the road PIMs can become a royal headache

"IS must be aware that at some point users will want to exchange PIM-related information, like directories or sales. with other users and have access to legacy data," says Karl Wong, principal anahat for PC and workgroup software at interment Inc in San Jose Calif

Organizations may not be able to stop individuals from buying PIMs, but proactive measures can ward off chaos. For example, standardizing on an office automation stite that includes PIM functionality would, by default, mean standardizing on a PIM. Another method is to allow departments to buy and manage their own DIMs

Managers at the Environmental Protection Agency in Washington never cared what software individual users loaded onto their machines, says Gerald LaVock, program manager at the EPA's Clean Water Act office and one of several renegade PIM users in his group. However, as the EPA migrates some 55 offices and 9,500 people to a LAN environment word from management is that renegade noftware is out

reed to choose

For LaVeck and some 20 other ad hoc PIM users, standardization means PerfeetOffice from WordPerfect, the Novell ine, Applications Group, "The organization was particularly interested in finding a program for E-mail and group scheduling," be says. Eventually, the onus will be on renegade PiM users to peacefully stop using their PIM software or deal with using two systems, only one of which will be supported.

Although LaVeck is adament about

Pining for PIMs

PIM market revenue (U.S.) \$91.2

says they sent me so E-mail message and it was posted on the scheduler?" he selve At the ormnire. tional level. Wone **Heading off disaster**

estimates corpo rations purchase 20% of PIM prod-

"Companies that buy these products look at them primarily as stroup schedulers not as PiMs," he sava, Moreover the boundaries be-

tween PIMs, contact managers and even sales automation software are blurring We're seeing vendors of basic PIM oducts add more features like contact management and vendors of high-end sales automation software make their

duets easier to use and less expen sive," Wong says. When PIMs are brought into an organ zation for group scheduling and coordi nation, management is most likely involved with the purchase of the product as well as its maintenance and support.

Yvonne Walker, add-on sales manager at Sakris Systems, a systems-integralor in Birmingham, Ala., says a lot of planning went into the selection of the PD6 that would synchronize the work of her organization's 17 field salespeople and in-house telemarketers. We needed a product that would a

dur salespeople and telemarketers in share customer contact and sales data-

base information," Walker says, Gold-Development Corp.'s Organizer 1.1 - be mine for Windows, from Flon Software mits the peer pressure to conform will Corp. in Pacific Palisades, Calif., allows be enormous. "What happens when I don't show un for a meeting and someone

Sakris Systems' employees to track re-

ferrals, appointments and callbacks and Standardizing on a PIM was important. "It allows as

to have uniform data, pull information for analysis and reporting and keep track of all notential and ex-Walker says. .

Likewase Shawn Fleid project coordinator at National Em-

bossing Co. in Stafford, Texas, was recently charged with finding a PIM that would facilitate smoother operations Standardization, he says, is critical. Our main objective is for information sharing between sales and program mers and programmers and prod and to schedule meetings," he says

While standardizing on a PIM is a gir for Fielder, meeting everyone's needs with a single product isn't easy. "Each group of users has different needs or demands on functionality however, there

must be compromise," he says. Managers who have already sta ized say that no single PIM product will do everything you want. If the PIM pro vides 90% of the functionality you're looking for, buy it. The benefits of stan dardization outweigh any compromise.

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Trying to stay in good form

Wall Street analysts say husiness communications soft ware maker Delrina Corp. (DENAF) is in good shape to face some upcoming challenges to its current lead in its market sector

According to Lisa Thompsoo, an analyst at Punk, Ziegal A Knoell in New York. Microsoft Corp.'s inclusion of a fax feature in Windows 95, the next version of Windows, proved to be a blow to Defrina's stock. But the company's reputation is a solid one that will hold it in good stead against the com-

pititioo, she said. "Reviews of Microsoft's beta version suggest the fax fea ture is not going to be nearly as good as Delrina's WinFax," Thompson said. "And even if it is, they still have a strong

oser base who will likely want to upgrade." Flexibility is another factor in Deirina's favor "Their software can work with a variety of other programs. But competitors like Microsoft offer form programs, for example, that work only with their own product lines." Thompson noted

Deirins has also successfully tackled the coosumer retail market and plans to bring its Perform for Windows form product there soon, Thompsoo said. 'There's virtually oo competition for them in this segment. They are extremely good at hringing products to the mass market," she said.

Recause the blow from Microsoft's announcement mashed

Delrina's stock price down, Thompsoo said oow is a good time to invest in the company. "This company is growing at over 100% a year. It isn't going to disappear any time soon," she said. -- Erin Callaway



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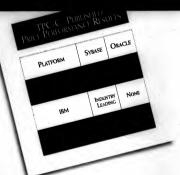
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LOOK, IN HEAD-TO-HEAD PRICE/PERFORMANCE ORACLE TURNS TAIL."



The results are clear, while Sybase has mastered real-world performance, Oracle has mastered the art of omission. It's no wonder Oracle has avoided head-to-head TPC-C competition another real-motif benchmark on Sun, Sybase more than doubled Oracle's published back-up and restore rate – while maintaining high throughput for OLTP and decision support. For the heat of the property o



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Intel policy incites

CONTINUED FROM PAGE 1

decision not to en public with the Pentium flow when the company discovered it several months are, users seemed particularly riled over the following: a Intel's perceived hesitancy to replace busty chips for all those who want new ones.

a Continued uncertainty about Intel's timetable for volume delivery of redesigned Pentium chips.

Strength in numbers "If we don't get replacements for our chips, we are

thinking of pooling our resources and filing a general class-action lawsuit aminst the company" for product liability and misrepresentation, said Randal Martines. president of Platform Systems Corp., a consultancy in ubington. Commuterworld encountered at least eight other users on the internet who said they would he willing to join an action against Intel if their chips were not unconditionally replaced

Like most users who have complained about the bor-Martines contends that Intel should replace flowed chips without users having to prove their applications warrant such a replacement While noting that Intel is correct in asserting that usors are very unlikely to encounter the bur. Cleve Moler

Internet and threats to take latel to court if it does not replace the buggy chips, most industry observers say such efforts will be hard to push.

"You can only sue the person you have a contractual tion with," said Es ther Reditti, editor of "Computor Low and Tax Reports," a newsletter in New York Recause systems vendors, and not intel, sell the chips to end users, no direct relationship exists between Intel and the consumer. Redutti said.

A lot depends on the contracts and warranties intel has in place with hardware vendors, Roditti mai tained. "It will be very unusual for in company like intell not to have drawn up warranties that protect it in such

However, intel's failure to disclose details of the flaw

could open it in possible action on grounds of misreners. sentation and fraud, Roditti conceded. "If it can be shown that intel had a positive obligation

within a reasonable time frame" to inform customers. users could have a cause of action in tort, she said. ments — there has been no occurring impact on demand intel, meanwhile, said it is keeping all communica tions lines open with its customers. Last week, apart from the fax-back services and toll-free belo lines it established, the company added another site on the laternot where users could gripe about their Pentium-related problems, an intel anokognomen said.

While many Internet years continued to reast at Intel for its apparent lack of responsiveness to the situation. many other users who had reached the company by late last week elaimed they were satisfied with its actions. For Instance, one user, who uses a Pentium-based syn-

tem to calculate doses of medicine for nationts, eluimed intel contacted her after seeing her posting on the In-

The Intel representative said that we - I guess intel would not want to expose nations to this risk at all She not me on the list for a new repressure learner I was stunned after reading all the posts on the 'net about being denied a new processor," she said. Intel is also offering a lifetime guarantee on the proceasor so users who need to handle hage math com

tations in the future will be able to replace the chip. Analysis said they do not expect redesimed chins to ship in volume natil at least the second quarter of 1965. Meanwhite, bardware vendors maintained that the controversy has not affected unles of Pentime systems According to both Dell Computer Corp. and Gateway 2000. Inc. — the current market leaders in Pentium ship-

as a result of the flaw, so far Most yeadors have opened up telephone lines and are qualifying customers for replacements ICW Dec 51 However, several users complained that despite on He stances, vendors were asking them to contact intel

IBM romances

CONTINUED FROM PAGE 1

even with discounts of up to 50% that IBM has offered since spring no both hardware and software IRM also has orginally started nosutlating special deals with individual software vendors. Josh Bersin, director of IBM and PowerPC platforms at Sybase, Inc. in Emereville Calif unid School and IDM are close to finalizing an agreement to port the development libraries for Sybase's System to database to MVS. included will be price breaks on mainframe could ment beyond IBM's normal discounts for developers, he added "Even at 50% off, Imainframe hardware and software) is basically priced for a bank with 1.000 terminals attached, not for 12 programmers writing software " Bon-

PropleSoft, Inc. in Walnut Creek, Calif., is also talking with IBM about ways to cut what it pays a mainframe service bureau for its MVS development work. 'We want to cut our cost of doing business in that market," said Frank Stretau. director of channel development at PeopleSoft.

The issue is a critical one for IRM The computer giant could be saddled with "a going out of husiness stratery" for the mainframe unless it can win over Unix application vendors to belp it find new eliont/server costomer blood, said Chartie Burns, an analyst of Gartner Group, Inc. in Stamford. Conn. "The ante to play in the felient/ serverl nume is new applications."

IBM's new CMOS-based parallel mainframes "could be departmental machines, but there's noth ing to run on them," Burns said. "H that doesn't change, there will be no or very little long-term growth for the System/390."

low to win users Jonne Young, a director at Tellaha Inc. a maker of telecommunication conjument in Lisie, III., said getting Unix applications ported to MVS would make the mainframe

more believable as a client/ server engine - at least to traditional System/390 users. There's a lot of concern about the ability of [Unix] platforms to

support large, complex applications," Young noted. Paul Carroll, bead of software vendor relations at IRACs Large Scale Computing Division, would not comment about the plans for the System/390 processor. But he said IBM hopes to "drastically rethe cost disparities be-

development within six months. Even so, software vendors were not immediately bonded over The board-level processor could be useful for testing functionality "but someone like us needs the genuine mainframe article to fully xploit our software," said Louis Sellacourt, director of MVS developport at Oracle Corp.

For the typical Unix application vendor, the cost is going to have to come down dramatically," said Gary Bloom, a vice president at Oracle, Everything is priced substantially higher in the MVS marketplace than it is in Unix."

Mail 3.2 CONTINUED FROM PAGE 1

"Microsoft last year had the rapt attention of the Fortune 1,000 companies," said David Fer-

ris, president of Ferris Networks in San Franeisco. Even companies with large Lotus Devel npment Corp. CC:Mail installations were looking at Exchange, he said. Now people are wondering whether they will have to wait for Exchange like they did for Windows, by added "If Exchange is delayed to meet more of my requirements, it is a good thing," said a user at a large pharmacoutical company, who asked not to be identified. "However we will revokable

implement another vendor's product in the meantime but use Microsoft Mail on the desktop." Other possibilities inelude Digitat Equipment Corp.'s Mail Works or Hewlett-Packard Co.'s Open

"I have been disappointed on the timeline with Exchange and feel it's not been made a priority," added a paer at a mai food products company who also asked not to be named. "I look forward to the rehissiness and functionality but it is a long time coming. If we had the hoxury to switch, we would." tween mainframe and Unix

Not only is the wait potentially damaging but

Microsoft also seems to be paring down Ex-obange's features list, said Nina Burns, president of Creative Networks in Pale Alto Calif The closor we get, the less functionality [Exchange has [Microsoft] keeps plugging it with gateways and third-party prodocts," Burns said. For example, Microsoft had indicated ear-tier that it would offer native Simple Mail Transport Protocol support; now that support will

At the American Bar Association in Chicago, an upgrade to Exchange will depend 'on what ithrings na," said Arthur Fong, PC LAN manag-er at the legal association. "We haven't seen a lot of information about Exchange," he added.

Additionally, users are worried about how the product will work in their existing environments. With Exchange, it will be like "going into a brand new world," said Tim Dawes, an information systems manager at London Life Insur ance Co. In London, Canada. "We will have to do the same type of rollout as we did with ILAN-

based) E-mail." he said. Current wees are priority

For Cheryl Wogahn, Microsoft Mail administra tor at Yale University in New Haven, Conn., the Exchange server is still an unknown assett that she has heard little or oothing about. Her more immediate concerns, she said, are our rent elitches with Microsoft Mail that bedavil her 600 users. For example, Wortship said mes-

sages are sometimes misdelivered. and directories have become corrupted when Versions 3.0 and 3.2 are both running in the same directory: Licery also wander whather Miss-

soft's flavor of X.500 will interoperate with other versions from Digital or HP. "Will they support the protocols that other major X.500 players support, or will f need some custom programming?" wondered the user at the pharmaceutical company. "They

say there will be a way to work around it, but I don't want a worksround." Oreg Lobdell, a Microsoft group pre manager, said although X.500 initially will not Interoperate with directory services from other players, it will have the directory import function, and subsequent releases will provide

more interoperability He also noted that while the initial training costs for Exchange will be high, the ultimate cost of ownership should be lower than other platforms. A user at a financial management compo aid he is concerned about having to adminis

ter Exchange, which runs on NT. in a Novell. Inc. NetWare environment. Although Microsoft has said administration of Exchange will be much less difficult than that of Microsoft Mail 3.2, there is always some concern about the vendor's "ability to make a reliable product," the page said



Cyber elf-help

could sook boly from a nal, but now all yes e to do is log on to you or for self-bolo m . Me2 is a program ed to hole more real bern power of their pend and professional Heaships. This ala't no rd, but the software was

privary - with a passd: of course. 'I thurge you \$80 for a minute possion.

While you're contemplating what the information superhighway can do for your business, why not just crack open a cold one, put your feet up and log on to budweiser.com.? This latest addition to the Internet is sure to offer the utmost in riveting corporate

Merger Maria

conversation.

Has Microsoft gone merger-mad? The anonymous author of a phony press release seems to think so. According to the release. Microsoft and the Vatican announced that the software giant will acquire the Roman Catholic Church. If the deal goes through, it will be the first time a computer software company has acquired a major world religion

Caviar a la Internet

If you thought all you could get on-line was shareware and electronic newsletters, think amin. Worldshop, a new commercial online service, offers holiday treats from caviar to handmade leather goods from South America to New England country home furnishines.

Unix royalty dispute remains hush-hush If the manon are true that literant is trying to get rival No pay double the requisition on each copy of Unit likes to each of Child Water I state of the parties are taking. Reports have been circumstants of crossly water to book repulses on Unit Viteria on Inial for 18th Adviscool in problementant desired that last week, each are not yet in sengitation with Novell spits one over Units. Did not the take it is time. "Novell was equally cryptic, though less loos, calling the wide that flast "are viterial to during market."

Lotus paring down the message
Lotus in expected this week to associate a parend-down version
that Lotus Communications Berver (LCI), which will be decoup
from hotels. While this will not affect users in pure CCMail or Ne
environments, it will affect those with low greimer. Those is vitil used two nervers — CC Mail and Notes — In a night-local
LCI requested only no. Allow, the company is reportedly grain
fast or out bast on the nature of CCMail. In it as interface? A sharing environment of the company of the com

Pounding the "Pad for truth and just the support pottor that hadge Laure to cha-sisters recoult?" O. I. discuss the cha-sisters recoult?" O. I. discuss the claim to the character of the country of the character country of the character of the character coultry that pedge, allowing that to step to that coultry thought and the character to see the character is a TailarPed store; to the language on ORS's ThinkPed form on an pope is runnered to have pounded on the 'Pa

Don't hold your breath for NetWare 3.2 Users hoping for an optimised 12 release of NetWare the savety at the instance in NetWare 4.x — except the Dire-sort of the State of the State of the State of the State centre is the president of the NetWare Systems Group-tand "there will be on NetWare 12." King also depresed with above its Virtual Londship Modules for effects in the older NetZ Gleist theils.

roduct, yes; merger, nah rack's much hyped but little-even Project X is due to be unvei in. 17, according to a source at Oracle. The single-user datable of development tool bit to be presented Parented Oracle will

ut where's the partridge in a parallel tree?

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